# STIC Search Report
## EIC 1700

USPTO

Scientific & Technical Information Center

**STIC Database Tracking Number: 159978**

**TO: Jill M Gray**
**Location: 10A64**
**Art Unit : 1774**
**July 22, 2005**

**Case Serial Number: 10/771276**

**From: Kathleen Fuller**
**Location: EIC 1700**
**REMSEN 4B28**
**Phone: 571/272-2505**
**Kathleen.Fuller@uspto.gov**

## Search Notes

I really couldn't find much on this with the correct composition-only the applicant. There is a lot on stainless steel fiber but in the abstracts they don't tell you what the other components of the steel fiber are.

Please expedite

Access DB#

# SEARCH REQUEST FORM

159978 SPE, A.U. 1774 7/20/05

**Scientific and Technical Information Center**

Requester's Full Name: Jill Gray Examiner # : 66983 Date: 7/20/05
Art Unit: 1774 Phone Number 302-1524 Serial Number: 10/771276
Mail Box and Bldg/Room Location: Re 10A64 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

******************************************************************************************

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plastic Article Comprising Bundle Drawn Stainless Steel fibers
Inventors (please provide full names): DeBondt, Stefan ; DeCrop Jaak

Earliest Priority Filing Date: 7/20/01

****For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.***

Pls Search attached Claims,

******************************************************************************************

| STAFF USE ONLY | | Type of Search | | Vendors and cost where applicable | |
|---|---|---|---|---|---|
| Searcher: | K. Fuller | NA Sequence (#) | | STN | ✓ |
| Searcher Phone #: | | AA Sequence (#) | | Dialog | |
| Searcher Location: | | Structure (#) | 1 | Questel/Orbit | |
| Date Searcher Picked Up: | | Bibliographic | | Dr.Link | |
| Date Completed: | 7/22/05 | Litigation | | Lexis/Nexis | |
| Searcher Prep & Review Time: | 40 | Fulltext | | Sequence Systems | |
| Clerical Prep Time: | | Patent Family | | WWW/Internet | |
| Online Time: | 98 | Other | | Other (specify) | |

PTO-1590 (8-01)

# STIC Search Results Feedback Form

USPTO

## EIC17000

Questions about the scope or the results of the search? Contact ***the EIC searcher or contact***:


**Kathleen Fuller, EIC 1700 Team Leader**
**571/272-2505 REMSEN 4B28**


## Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art **found**, search results used as follows:*

  ☐ 102 rejection

  ☐ 103 rejection

  ☐ Cited as being of interest.

  ☐ Helped examiner better understand the invention.

  ☐ Helped examiner better understand the state of the art in their technology.

  *Types of relevant prior art found:*

  ☐ Foreign Patent(s)

  ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found:***

  ☐ Results verified the lack of relevant prior art (helped determine patentability).

  ☐ Results were not useful in determining patentability or understanding the invention.

**Comments:**

```
=> file hcaplu
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FILE COVERS 1907 - 22 Jul 2005  VOL 143 ISS 5
FILE LAST UPDATED: 21 Jul 2005  (20050721/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d que l15
L2   (        22)SEA FILE=REGISTRY ABB=ON  (494831-56-0/BI OR 494831-57-1/BI OR
                494831-58-2/BI OR 494831-59-3/BI OR 7439-89-6/BI OR 24937-16-4/
                BI OR 24968-11-4/BI OR 24968-12-5/BI OR 25038-59-9/BI OR
                25038-74-8/BI OR 26062-94-2/BI OR 7440-50-8/BI OR 7664-93-9/BI
                OR 7697-37-2/BI OR 9002-86-2/BI OR 9002-88-4/BI OR 9002-89-5/BI
                 OR 9003-07-0/BI OR 9003-53-6/BI OR 9003-54-7/BI OR 9003-56-9/B
                I OR 9020-73-9/BI)
L3   (        14)SEA FILE=REGISTRY ABB=ON  L2 AND PMS/CI
L4   (     23459)SEA FILE=REGISTRY ABB=ON  (FE(L)MN(L)SI(L)NI(L)CR(L)MO(L)CU)/EL
                S
L5   (     23458)SEA FILE=REGISTRY ABB=ON  L4 AND AYS/CI
L6   (     35317)SEA FILE=HCAPLUS ABB=ON  L5
L7   (       330)SEA FILE=HCAPLUS ABB=ON  L6 AND (FIBER? OR FIBRE? OR THREAD?) +wire
L8   (    520929)SEA FILE=HCAPLUS ABB=ON  L3
L9   (        14)SEA FILE=HCAPLUS ABB=ON  L7 AND L8
L10  (        28)SEA FILE=HCAPLUS ABB=ON  L7 AND (PLASTIC? OR POLYMER?)/SC,SX
L11  (        37)SEA FILE=HCAPLUS ABB=ON  L9 OR L10
L12  (      9656)SEA FILE=HCAPLUS ABB=ON  (STEEL OR FE OR IRON)(3A)(FIBER? OR
                FIBRE? OR THREAD?)
L13  (        13)SEA FILE=HCAPLUS ABB=ON  L11 AND L12
L14  (         1)SEA FILE=HCAPLUS ABB=ON  L11 AND (SHIELD? OR EMI OR ESD)
L15           13 SEA FILE=HCAPLUS ABB=ON  L13 OR L14


=> file rapra
FILE 'RAPRA' ENTERED AT 10:29:24 ON 22 JUL 2005
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FILE LAST UPDATED: 19 JUL 2005       <20050719/UP>
FILE COVERS 1972 TO DATE

>>> Simultaneous left and right truncation is available in the
    basic index (/BI), and in the controlled term (/CT),
    geographical term (/GT), and non-polymer term (/NPT) fields. <<<
```

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>>> The RAPRA Classification Code is available as a PDF file
>>> and may be downloaded free-of-charge from:
>>> http://www.stn-international.de/stndatabases/details/rapra_classcodes.pdf

=> d que 128
L17            0 SEA FILE=RAPRA ABB=ON  (FE OR IRON)(4A)(MN OR MANGANESE)(3A)(SI
                  OR SILICON)(3A)(NI OR NICKEL)(2A)(CR OR CHROMIUM)(3A)(MO OR
                 MOLYBDENUM)(3A)(CU OR COPPER)
L18          192 SEA FILE=RAPRA ABB=ON  STAIN?(2A)STEEL(3A)(FIBER? OR FIBRE? OR  wire
                 THREAD?)
L19          181 SEA FILE=RAPRA ABB=ON  L18 AND (POLYMER? OR PLASTIC? OR RESIN?
                 OR COMPOSITE?)
L21           24 SEA FILE=RAPRA ABB=ON  L19 AND (VOLUME OR VOL)
L22            1 SEA FILE=RAPRA ABB=ON  VOLUME+NT/CT AND L19
L23          138 SEA FILE=RAPRA ABB=ON  STEEL FIBER-REINFORCED PLASTIC+NT/CT
L24          138 SEA FILE=RAPRA ABB=ON  STEEL FIBRE-REINFORCED PLASTIC+NT/CT
L25           27 SEA FILE=RAPRA ABB=ON  L19 AND (L23 OR L24)
L26            8 SEA FILE=RAPRA ABB=ON  L21 AND L25
L27            9 SEA FILE=RAPRA ABB=ON  L22 OR L26
L28            9 SEA FILE=RAPRA ABB=ON  L17 OR L27


=> file wpix
FILE 'WPIX' ENTERED AT 10:29:35 ON 22 JUL 2005
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FILE LAST UPDATED:            20 JUL 2005      <20050720/UP>
MOST RECENT DERWENT UPDATE:      200546          <200546/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
    PLEASE VISIT:
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>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
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    PLEASE CHECK:
http://thomsonderwent.com/support/dwpiref/reftools/classification/code-revision/
    FOR DETAILS. <<<

=> d que 123
L23          138 SEA FILE=RAPRA ABB=ON  STEEL FIBER-REINFORCED PLASTIC+NT/CT


=> file ema
FILE 'EMA' ENTERED AT 10:29:48 ON 22 JUL 2005
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FILE LAST UPDATED:          29 JUN 2005      <20050629/UP>
FILE COVERS 1986 TO DATE.

=> da que 155
DA IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> d que 155
L44          10 SEA FILE=EMA ABB=ON  (STEEL OR FE OR IRON)(S)(MN OR MANGANESE)(
                S)(SI OR SILICON)(S)(NI OR NICKEL)(S)(CR OR CHROMIUM)(S)(MO OR
                MOLYBDENUM)(S)(CU OR COPPER)
L45         140 SEA FILE=EMA ABB=ON  STAIN?(2A)STEEL(3A)(FIBER? OR FIBRE? OR
                THREAD?)
L46           0 SEA FILE=EMA ABB=ON  L44 AND L45
L47           0 SEA FILE=EMA ABB=ON  L44 AND (FIBER? OR FIBRE? OR THREAD?)
L48         132 SEA FILE=EMA ABB=ON  L45 AND (POLYMER? OR PLASTIC? OR RESIN?
                OR COMPOSITE?)
L49          41 SEA FILE=EMA ABB=ON  L48 AND SHIELD?
L50           0 SEA FILE=EMA ABB=ON  L49 AND DRAW?
L51           0 SEA FILE=EMA ABB=ON  L49 AND BUNDL?
L52           1 SEA FILE=EMA ABB=ON  L49 AND WIRE?
L54          11 SEA FILE=EMA ABB=ON  L48 AND (VOLUME OR VOL)(3A)(FIBER? OR
                OFIBRE? OR THREAD?)
L55          12 SEA FILE=EMA ABB=ON  L46 OR L47 OR (L50 OR L51 OR L52) OR L54

=> file jicst
FILE 'JICST-EPLUS' ENTERED AT 10:30:09 ON 22 JUL 2005
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FILE COVERS 1985 TO 18 JUL 2005 (20050718/ED)

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TERM (/CT) THESAURUS RELOAD.

=> d que 160
L44          10 SEA FILE=EMA ABB=ON  (STEEL OR FE OR IRON)(S)(MN OR MANGANESE)(
                S)(SI OR SILICON)(S)(NI OR NICKEL)(S)(CR OR CHROMIUM)(S)(MO OR
                MOLYBDENUM)(S)(CU OR COPPER)
L45         140 SEA FILE=EMA ABB=ON  STAIN?(2A)STEEL(3A)(FIBER? OR FIBRE? OR
                THREAD?)
L46           0 SEA FILE=EMA ABB=ON  L44 AND L45
L47           0 SEA FILE=EMA ABB=ON  L44 AND (FIBER? OR FIBRE? OR THREAD?)
L48         132 SEA FILE=EMA ABB=ON  L45 AND (POLYMER? OR PLASTIC? OR RESIN?
                OR COMPOSITE?)
L49          41 SEA FILE=EMA ABB=ON  L48 AND SHIELD?
L50           0 SEA FILE=EMA ABB=ON  L49 AND DRAW?
L51           0 SEA FILE=EMA ABB=ON  L49 AND BUNDL?
L52           1 SEA FILE=EMA ABB=ON  L49 AND WIRE?
L54          11 SEA FILE=EMA ABB=ON  L48 AND (VOLUME OR VOL)(3A)(FIBER? OR
                OFIBRE? OR THREAD?)
L56           4 SEA FILE=JICST-EPLUS ABB=ON  L46 OR L47 OR (L50 OR L51 OR L52)
                OR L54
L57          47 SEA FILE=JICST-EPLUS ABB=ON  (STEEL OR FE OR IRON)(S)(MN OR
                MANGANESE)(S)(SI OR SILICON)(S)(NI OR NICKEL)(S)(CR OR
                CHROMIUM)(S)(MO OR MOLYBDENUM)(S)(CU OR COPPER)
L58         118 SEA FILE=JICST-EPLUS ABB=ON  STAIN?(2A)STEEL(3A)(FIBER? OR
                FIBRE? OR THREAD?)
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L59            0 SEA FILE=JICST-EPLUS ABB=ON  L57 AND L58
L60            4 SEA FILE=JICST-EPLUS ABB=ON  L56 OR L59
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=> file metadex
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>>> DUE TO TECHNICAL PROBLEMS THE FILE CANNOT BE UPDATED AT THE MOMENT.
    UPDATING WILL BE RESUMED AS SOON AS POSSIBLE.<<<

=> d que 166
L44           10 SEA FILE=EMA ABB=ON  (STEEL OR FE OR IRON)(S)(MN OR MANGANESE)(
                S)(SI OR SILICON)(S)(NI OR NICKEL)(S)(CR OR CHROMIUM)(S)(MO OR
                MOLYBDENUM)(S)(CU OR COPPER)
L45          140 SEA FILE=EMA ABB=ON  STAIN?(2A)STEEL(3A)(FIBER? OR FIBRE? OR
                THREAD?)
L46            0 SEA FILE=EMA ABB=ON  L44 AND L45
L47            0 SEA FILE=EMA ABB=ON  L44 AND (FIBER? OR FIBRE? OR THREAD?)
L48          132 SEA FILE=EMA ABB=ON  L45 AND (POLYMER? OR PLASTIC? OR RESIN?
                OR COMPOSITE?)
L49           41 SEA FILE=EMA ABB=ON  L48 AND SHIELD?
L50            0 SEA FILE=EMA ABB=ON  L49 AND DRAW?
L51            0 SEA FILE=EMA ABB=ON  L49 AND BUNDL?
L52            1 SEA FILE=EMA ABB=ON  L49 AND WIRE?
L54           11 SEA FILE=EMA ABB=ON  L48 AND (VOLUME OR VOL)(3A)(FIBER? OR
                OFIBRE? OR THREAD?)
L61           16 SEA FILE=METADEX ABB=ON  L46 OR L47 OR (L50 OR L51 OR L52) OR
                L54
L62           10 SEA FILE=METADEX ABB=ON  L61 AND (STEEL(3A)(FIBER? OR FIBER?
                OR THREAD?))
L63        42888 SEA FILE=METADEX ABB=ON  COMPOSITE MATERIALS+NT/CT
L64            6 SEA FILE=METADEX ABB=ON  L62 AND L63
L66            1 SEA FILE=METADEX ABB=ON  L64 AND (POLYMER? OR PLASTIC? OR
                RESIN?)

=> dup rem 115 128 143 155 160 166
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PROCESSING COMPLETED FOR L15
PROCESSING COMPLETED FOR L28
PROCESSING COMPLETED FOR L43
PROCESSING COMPLETED FOR L55
PROCESSING COMPLETED FOR L60
PROCESSING COMPLETED FOR L66
L67          40 DUP REM L15 L28 L43 L55 L60 L66 (1 DUPLICATE REMOVED)

=> d l67 all hitstr 1-40

L67  ANSWER 1 OF 40  HCAPLUS  COPYRIGHT 2005 ACS on STN
AN   2004:1060562  HCAPLUS
DN   142:39577
ED   Entered STN:  10 Dec 2004
TI   Plastic article comprising bundle drawn stainless steel
     fibers
IN   De Bondt, Stefaan; Decrop, Jaak
PA   N.V. Bekaert S.A., Belg.
SO   U.S. Pat. Appl. Publ., 14 pp., Cont.-in-part of U.S. Ser. No. 482,379.
     CODEN: USXXCO
DT   Patent
LA   English
IC   ICM  D04H001-00
INCL 428292100
CC   38-3 (Plastics Fabrication and Uses)
FAN.CNT 2
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   US 2004247848        A1    20041209   US 2004-771276         20040204
     WO 2003010353        A1    20030206   WO 2002-EP7269         20020702
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
        RW:  GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
             NE, SN, TD, TG
     US 2004265576        A1    20041230   US 2004-482379         20040220
PRAI EP 2001-202775       A     20010720
     WO 2002-EP7269       W     20020702
     US 2004-482379       A2    20040220
CLASS
 PATENT NO.        CLASS  PATENT FAMILY CLASSIFICATION CODES
 --------------    -----  ----------------------------------------------------
 US 2004247848     ICM    D04H001-00
                   INCL   428292100
 US 2004247848     NCL    428/292.100
                   ECLA   B21C037/04D; B22F001/00A2F; C22C033/02K2; C22C038/40
 WO 2003010353     ECLA   B21C037/04D; B22F001/00A2F; C22C033/02K2; C22C038/40
 US 2004265576     NCL    428/364.000
                   ECLA   B21C037/04D; B22F001/00A2F; C22C033/02K2; C22C038/40
AB   The plastic articles comprising stainless steel fibers
     are obtained by bundled drawing of stainless steel wires embedded in a
```

applicant

matrix material. The composition of the stainless **steel**
**fibers** comprises **Fe** and the following components
expressed in percent by weight: C ≤0.05%, Mn ≤5%, Si
≤2%, 8≤ Ni ≤12%, 15%≤ Cr ≤20%, Mo
≤3%, Cu ≤4%, N ≤0.05%, S ≤0.03%, and P
≤0.05%.

ST stainless **steel fiber** bundle electromagnetic
**shield**

IT Wires
(bundled; plastic comprising bundle drawn stainless **steel**
**fibers**)

IT Metallic **fibers**
RL: TEM (Technical or engineered material use); USES (Uses)
(high-strength; plastic comprising bundle drawn stainless **steel**
**fibers**)

IT Polyamides, uses
Polycarbonates, uses
Polyesters, uses
Polyimides, uses
Polyolefins
Polyurethanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(plastic comprising bundle drawn stainless **steel**
**fibers**)

IT Polyethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester-; plastic comprising bundle drawn stainless **steel**
**fibers**)

IT Polyesters, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-; plastic comprising bundle drawn stainless **steel**
**fibers**)

IT Electromagnetic **shields**
(wires, stainless steel for; plastic comprising bundle drawn stainless
**steel fibers**)

IT 7439-89-6, **Iron**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coating, **fibers** with; plastic comprising bundle drawn
stainless **steel fibers**)

IT **9002-86-2**, Polyvinyl chloride **9002-88-4**, Polyethylene
**9002-89-5**, Polyvinyl alcohol **9003-07-0**, Polypropylene
**9003-53-6**, Polystyrene **9003-54-7**, Acrylonitrile-styrene
copolymer **9003-56-9**, Acrylonitrile-butadiene-styrene copolymer
**9020-73-9**, Polyethylene naphthalate **24937-16-4**, Nylon 12
**24968-11-4**, Polyethylene naphthalate **24968-12-5**,
Polybutylene terephthalate **25038-59-9**, uses **25038-74-8**
**26062-94-2**, Polybutylene terephthalate **494831-56-0**
**494831-57-1** **494831-58-2** **494831-59-3**
RL: TEM (Technical or engineered material use); USES (Uses)
(plastic comprising bundle drawn stainless **steel**
**fibers**)

IT **9002-86-2**, Polyvinyl chloride **9002-88-4**, Polyethylene
**9002-89-5**, Polyvinyl alcohol **9003-07-0**, Polypropylene
**9003-53-6**, Polystyrene **9003-54-7**, Acrylonitrile-styrene
copolymer **9003-56-9**, Acrylonitrile-butadiene-styrene copolymer
**9020-73-9**, Polyethylene naphthalate **24937-16-4**, Nylon 12
**24968-11-4**, Polyethylene naphthalate **24968-12-5**,
Polybutylene terephthalate **25038-59-9**, uses **25038-74-8**
**26062-94-2**, Polybutylene terephthalate **494831-56-0**
**494831-57-1** **494831-58-2** **494831-59-3**

RL: TEM (Technical or engineered material use); USES (Uses)
(plastic comprising bundle drawn stainless **steel**
**fibers**)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl

$H_2C{=}CH{-}Cl$

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

RN 9003-07-0 HCAPLUS
CN 1-Propene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 115-07-1
CMF C3 H6

$H_3C{-}CH{=}CH_2$

RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

RN 9003-54-7 HCAPLUS
CN 2-Propenenitrile, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N

$H_2C{=}CH{-}C{\equiv}N$

CM 2

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

RN 9003-56-9 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N

$H_2C{=}CH{-}C{\equiv}N$

CM 2

CRN 106-99-0
CMF C4 H6

$H_2C{=}CH{-}CH{=}CH_2$

CM 3

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

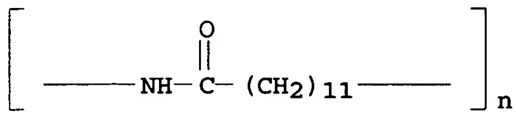
RN 9020-73-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyloxycarbonylnaphthalenediylcarbonyl) (9CI) (CA

INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

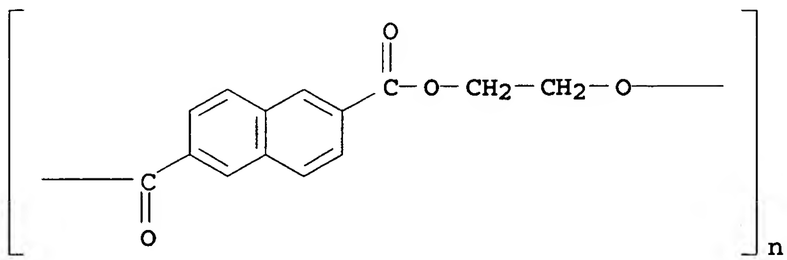
RN 24937-16-4 HCAPLUS

CN Poly[imino(1-oxo-1,12-dodecanediyl)] (9CI) (CA INDEX NAME)



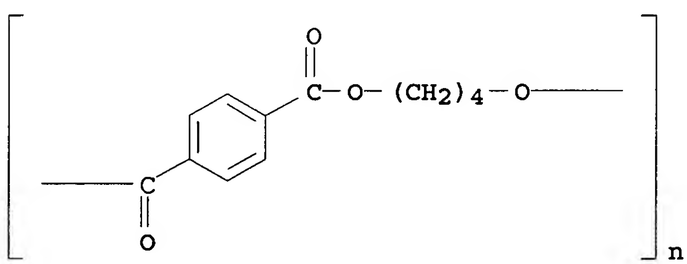
RN 24968-11-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyloxycarbonyl-2,6-naphthalenediylcarbonyl) (9CI) (CA INDEX NAME)



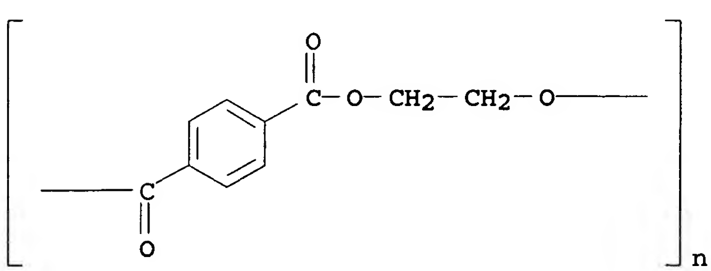
RN 24968-12-5 HCAPLUS

CN Poly(oxy-1,4-butanediyloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)



RN 25038-59-9 HCAPLUS

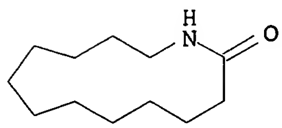
CN Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)



RN 25038-74-8 HCAPLUS
CN Azacyclotridecan-2-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 947-04-6
CMF C12 H23 N O



RN 26062-94-2 HCAPLUS
CN 1,4-Benzenedicarboxylic acid, polymer with 1,4-butanediol (9CI) (CA INDEX NAME)

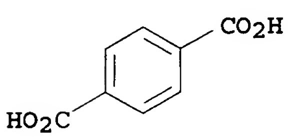
CM 1

CRN 110-63-4
CMF C4 H10 O2

$HO-(CH_2)_4-OH$

CM 2

CRN 100-21-0
CMF C8 H6 O4



RN 494831-56-0 HCAPLUS
CN Iron alloy, base, Fe 54-77,Cr 15-20,Ni 8-12,Mn 0-5,Cu 0-4,Mo 0-3,Si 0-2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 54 - 77 | 7439-89-6 |
| Cr | 15 - 20 | 7440-47-3 |
| Ni | 8 - 12 | 7440-02-0 |
| Mn | 0 - 5 | 7439-96-5 |
| Cu | 0 - 4 | 7440-50-8 |
| Mo | 0 - 3 | 7439-98-7 |
| Si | 0 - 2 | 7440-21-3 |

RN 494831-57-1 HCAPLUS

CN Iron alloy, base, Fe 69,Cr 18,Ni 9.8,Mn 1.3,Si 0.7,Cu 0.4,Mo 0.4 (9CI)
(CA INDEX NAME)

| Component | Component Percent | Component Registry Number * |
|---|---|---|
| Fe | 69 | 7439-89-6 |
| Cr | 18 | 7440-47-3 |
| Ni | 9.8 | 7440-02-0 |
| Mn | 1.3 | 7439-96-5 |
| Si | 0.7 | 7440-21-3 |
| Cu | 0.4 | 7440-50-8 |
| Mo | 0.4 | 7439-98-7 |

RN 494831-58-2 HCAPLUS
CN Iron alloy, base, Fe 67,Cr 19,Ni 11,Mn 1.8,Si 0.4,Cu 0.3,Mo 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number * |
|---|---|---|
| Fe | 67 | 7439-89-6 |
| Cr | 19 | 7440-47-3 |
| Ni | 11 | 7440-02-0 |
| Mn | 1.8 | 7439-96-5 |
| Si | 0.4 | 7440-21-3 |
| Cu | 0.3 | 7440-50-8 |
| Mo | 0.2 | 7439-98-7 |

RN 494831-59-3 HCAPLUS
CN Iron alloy, base, Fe 68,Cr 18,Ni 9.5,Cu 3.2,Mn 0.9,Si 0.7,Mo 0.2 (9CI)
(CA INDEX NAME)

| Component | Component Percent | Component Registry Number * |
|---|---|---|
| Fe | 68 | 7439-89-6 |
| Cr | 18 | 7440-47-3 |
| Ni | 9.5 | 7440-02-0 |
| Cu | 3.2 | 7440-50-8 |
| Mn | 0.9 | 7439-96-5 |
| Si | 0.7 | 7440-21-3 |
| Mo | 0.2 | 7439-98-7 |

L67 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:119837 HCAPLUS
DN 140:149220
ED Entered STN: 13 Feb 2004
TI **Fiber** cooling of fuel cells
IN Bunker, Ronald Scott
PA General Electric Company, USA
SO U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DT Patent
LA English
IC ICM H01M008-02
ICS H01M008-08; H01M008-10; H01M008-12
INCL 429039000; 429031000; 429026000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): **38**, 48

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 2004028988 | A1 | 20040212 | US 2002-212541 | 20020806 |
| | CA 2436070 | AA | 20040206 | CA 2003-2436070 | 20030724 |
| | SG 111157 | A1 | 20050530 | SG 2003-5846 | 20030728 |
| | JP 2004071568 | A2 | 20040304 | JP 2003-286539 | 20030805 |
| | CN 1481046 | A | 20040310 | CN 2003-127419 | 20030806 |
| | EP 1406331 | A1 | 20040407 | EP 2003-254885 | 20030806 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRAI US 2002-212541 A 20020806

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| US 2004028988 | ICM | H01M008-02 |
| | ICS | H01M008-08; H01M008-10; H01M008-12 |
| | INCL | 429039000; 429031000; 429026000 |
| US 2004028988 | NCL | 429/039.000; 429/031.000; 429/026.000 |
| JP 2004071568 | FTERM | 5H026/AA03; 5H026/AA04; 5H026/AA05; 5H026/AA06; 5H026/AA08; 5H026/AA10; 5H026/CC03; 5H026/CC10; 5H026/CX02; 5H026/EE02; 5H026/EE08 |

AB Fuel cells, for example solid oxide fuel cells, require cooling to maintain temperature levels and remove thermal energy generated by the fuel cells. The present invention provides a fuel cell assembly comprising at least one fuel cell. The fuel cell comprises an anode, a cathode, an electrolyte interposed there between, an interconnect which is in intimate contact with at least one of the anode, the cathode and the electrolyte; at least one fluid flow channel which is disposed within the fuel cell, and at least one **fiber** which is disposed within the fluid flow channel. The **fiber** disposed within the fluid flow channel disrupts a fluid flow during travel of the fluid within the fluid flow channel to generate unsteady wakes. These unsteady wakes enhance the local heat transfer characteristics adjacent to at least one **fiber** . A higher Reynolds number enhances the heat transfer characteristics proportionately. Enhanced heat transfer characteristics increase the ability to remove heat more efficiently and more effectively.

ST fuel cell **fiber** cooling

IT Primary batteries
(Zn-air; **fiber** cooling of fuel cells)

IT Fuel cells
(direct methanol; **fiber** cooling of fuel cells)

IT Ceramics
Cooling
Heat transfer
(**fiber** cooling of fuel cells)

IT **Fibers**
RL: DEV (Device component use); USES (Uses)
(**fiber** cooling of fuel cells)

IT Fuel cells
(molten carbonate; **fiber** cooling of fuel cells)

IT Fuel cells
(regenerative fuel cells; **fiber** cooling of fuel cells)

IT Fuel cells
(solid electrolyte, proton exchange membrane; **fiber** cooling of fuel cells)

IT Fuel cells
(solid oxide; **fiber** cooling of fuel cells)

IT 12597-68-1, Stainless **steel**, uses

RL: DEV (Device component use); USES (Uses)
(chromium, ferritic; **fiber** cooling of fuel cells)

IT 1303-15-7, Cobaltite 12016-69-2, Chromium cobalt oxide (Cr2CoO4)
12017-94-6, Chromium Lanthanum oxide (CrLaO3) 12606-02-9, Inconel 600
12631-43-5, Inconel 601 12671-88-4, Hastelloy x **12745-19-6**,
Ebrite **39332-67-7**, Kovar 94076-32-1, Hastelloy 230
157451-84-8, Ducrolloy
RL: DEV (Device component use); USES (Uses)
(**fiber** cooling of fuel cells)

IT 67-56-1, Methanol, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**fiber** cooling of fuel cells)

IT **12745-19-6**, Ebrite **39332-67-7**, Kovar
RL: DEV (Device component use); USES (Uses)
(**fiber** cooling of fuel cells)

RN 12745-19-6 HCAPLUS

CN Iron alloy, base, Fe 69-74,Cr 25.00-27.50,Mo 0.75-1.50,Ni 0-0.50,Mn 0-0.40,Si 0-0.40,Cu 0-0.20,P 0-0.020,S 0-0.020,N 0-0.015,C 0-0.010 (UNS S44625) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 69 - 74 | 7439-89-6 |
| Cr | 25.00 - 27.50 | 7440-47-3 |
| Mo | 0.75 - 1.50 | 7439-98-7 |
| Ni | 0 - 0.50 | 7440-02-0 |
| Mn | 0 - 0.40 | 7439-96-5 |
| Si | 0 - 0.40 | 7440-21-3 |
| Cu | 0 - 0.20 | 7440-50-8 |
| P | 0 - 0.020 | 7723-14-0 |
| S | 0 - 0.020 | 7704-34-9 |
| N | 0 - 0.015 | 17778-88-0 |
| C | 0 - 0.01 | 7440-44-0 |

RN 39332-67-7 HCAPLUS

CN Iron alloy, base, Fe 53,Ni 29,Co 17,Mn 0-0.50,Cr 0-0.20,Cu 0-0.20,Mo 0-0.20,Si 0-0.20,Al 0-0.10,Mg 0-0.10,Ti 0-0.10,Zr 0-0.10,C 0-0.04 (UNS K94610) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 53 | 7439-89-6 |
| Ni | 29 | 7440-02-0 |
| Co | 17 | 7440-48-4 |
| Mn | 0 - 0.50 | 7439-96-5 |
| Cr | 0 - 0.20 | 7440-47-3 |
| Cu | 0 - 0.20 | 7440-50-8 |
| Mo | 0 - 0.20 | 7439-98-7 |
| Si | 0 - 0.20 | 7440-21-3 |
| Al | 0 - 0.10 | 7429-90-5 |
| Mg | 0 - 0.10 | 7439-95-4 |
| Ti | 0 - 0.10 | 7440-32-6 |
| Zr | 0 - 0.10 | 7440-67-7 |
| C | 0 - 0.04 | 7440-44-0 |

L67 ANSWER 3 OF 40 HCAPLUS 

AN 2004:756043 HCAPLUS

```
DN   141:266047
ED   Entered STN:  16 Sep 2004
TI   Medical implants coated with biocompatible carbon-containing layers
PA   Blue Membranes GmbH, Germany
SO   Ger. Gebrauchsmusterschrift, 23 pp.
     CODEN: GGXXFR
DT   Patent
LA   German
IC   ICM  A61L027-28
     ICS  B05D003-02; C23C016-56
CC   63-7 (Pharmaceuticals)
FAN.CNT 9
     PATENT NO.             KIND   DATE       APPLICATION NO.          DATE
     ---------------        ----   --------   --------------------     --------
PI   DE 202004009060         U1    20040916   DE 2004-202004009060     20040510
     DE 10322182             A1    20041202   DE 2003-10322182         20030516
     DE 10324415             A1    20041216   DE 2003-10324415         20030528
     DE 10333098             A1    20050210   DE 2003-10333098         20030721
PRAI DE 2003-10322182        A1    20030516
     DE 2003-10324415        A1    20030528
     DE 2003-10333098        A1    20030721
CLASS
 PATENT NO.       CLASS  PATENT FAMILY CLASSIFICATION CODES
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 DE 202004009060  ICM    A61L027-28
                  ICS    B05D003-02; C23C016-56
 DE 202004009060  ECLA   A61L027/30A; A61L031/08B2; A61L031/10; A61L031/16
 DE 10322182      ECLA   A61L027/30A; A61L031/08B2; A61L031/10; A61L031/16
 DE 10324415      ECLA   A61L027/30A; A61L031/08B2; A61L031/10; A61L031/16
 DE 10333098      ECLA   A61L027/30A; A61L031/08B2
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AB The invention concerns medical implants that are coated with biocompatible carbon-layers composed; the layers are prepared by (a) at least partial covering or coating of a medical implant with a polymer film; (b) heating the polymer film to 2000-2500°C in an oxygen-free atmospheric The medical device is prepared from carbon, carbon-composite material, glass, ceramics, glass **fibers**, carbon **fibers**, metals, stainless **steel**, titanium, tantalum, platinum, nitinol, alloys, artificial bone, minerals, and their combinations; during heat treatment they are transferred in their heat-stable modifications. Artificial blood vessels, stents, coronary stents, peripheral stents, orthopedic implants, artificial hearts and heart valves, artificial bones and joints are prepared Polymers are applied by conventional coating techniques, e.g. from polymer solns.; carbon and silicon can be deposited in a PVD or CVD process. The biocompatible carbon layer can be coated with a bioresorbant or biodegradable polymer layer, e.g. polylactide. The implants can be loaded with drugs, microorganisms or cells.

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ST   biocompatible coated medical implant carbon carbonization polymer stent
IT   Bone morphogenetic proteins
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (2, recombinant human; medical implants coated with biocompatible
        carbon-containing layers)
IT   Stem cell
        (Endothelial Progenitor Cells; medical implants coated with
        biocompatible carbon-containing layers)
IT   Enzymes, biological studies
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (Gyrase, inhibitors; medical implants coated with biocompatible
        carbon-containing layers)
IT   Proteins
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
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(Monocyte chemotactic protein; medical implants coated with
biocompatible carbon-containing layers)

IT Coating process
(adhering; medical implants coated with biocompatible carbon-containing
layers)

IT Imidazoline receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(agonists; medical implants coated with biocompatible carbon-containing
layers)

IT Phenolic resins, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(alkyl; medical implants coated with biocompatible carbon-containing
layers)

IT Prosthetic materials and Prosthetics
(alloys, implants; medical implants coated with biocompatible
carbon-containing layers)

IT Glycosides
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino; medical implants coated with biocompatible carbon-containing
layers)

IT Epoxy resins, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aromatic epoxy resins; medical implants coated with biocompatible
carbon-containing layers)

IT Blood vessel
Bone
Heart
Joint, anatomical
(artificial; medical implants coated with biocompatible carbon-containing
layers)

IT Electrostatic force
(between drug and implant surface; medical implants coated with
biocompatible carbon-containing layers)

IT Prosthetic materials and Prosthetics
(cardiovascular implants; medical implants coated with biocompatible
carbon-containing layers)

IT Coating process
(centrifugal; medical implants coated with biocompatible carbon-containing
layers)

IT Prosthetic materials and Prosthetics
(ceramic, implants; medical implants coated with biocompatible
carbon-containing layers)

IT Vapor deposition process
(chemical; medical implants coated with biocompatible carbon-containing
layers)

IT Prosthetic materials and Prosthetics
(composites, implants; medical implants coated with biocompatible
carbon-containing layers)

IT Bond
(covalent, of drugs with the implant surface; medical implants coated
with biocompatible carbon-containing layers)

IT Antibiotics
(cytotoxic; medical implants coated with biocompatible carbon-containing
layers)

IT Coating process
(dip; medical implants coated with biocompatible carbon-containing layers)

IT Drug delivery systems
(emulsions; medical implants coated with biocompatible carbon-containing
layers)

IT Pitch

(exclusion of; medical implants coated with biocompatible carbon-containing layers)
IT Proteins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(fibroblast stimulating factor 1; medical implants coated with biocompatible carbon-containing layers)
IT Coating process
(flame-spraying; medical implants coated with biocompatible carbon-containing layers)
IT Prosthetic materials and Prosthetics
(glass ceramics; medical implants coated with biocompatible carbon-containing layers)
IT Steroids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(hormones; medical implants coated with biocompatible carbon-containing layers)
IT Prosthetic materials and Prosthetics
(implants; medical implants coated with biocompatible carbon-containing layers)
IT Transforming growth factors
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(inhibitors; medical implants coated with biocompatible carbon-containing layers)
IT Spinal column
(intervertebral disk, artificial; medical implants coated with biocompatible carbon-containing layers)
IT Vapor deposition process
(laser ablation; medical implants coated with biocompatible carbon-containing layers)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(lipocalin, antagonists; medical implants coated with biocompatible carbon-containing layers)
IT Drug delivery systems
(liposomes; medical implants coated with biocompatible carbon-containing layers)
IT Antibiotics
(macrolide; medical implants coated with biocompatible carbon-containing layers)
IT Adhesives
Adrenoceptor agonists
Anti-inflammatory agents
Antiarrhythmics
Antihypertensives
Antihypotensives
Antiviral agents
Biocompatibility
Calcium channel blockers
Carbonization
Cell
Coating process
Cytotoxic agents
Dopamine agonists
Fibrinolytics
Films
Human
Ion implantation
Lamination
Oxidizing agents
Platelet aggregation inhibitors

Porosity
Reducing agents
Stem cell
Vasodilators
(medical implants coated with biocompatible carbon-containing layers)

IT Polymers, biological studies
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

IT Bases, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

IT Acrylic polymers, biological studies
Albumins, biological studies
Alkaloids, biological studies
Alkyd resins
Aminoplasts
Anthracyclines
Antiandrogens
Antibodies and Immunoglobulins
Antiestrogens
Bitumens
Bone morphogenetic proteins
Carbonates, biological studies
Caseins, biological studies
Chlorinated natural rubber
Coal tar
Collagens, biological studies
Corticosteroids, biological studies
DNA
Epoxy resins, biological studies
Fibrinogens
Fibronectins
Fluoropolymers, biological studies
Gelatins, biological studies
Glucocorticoids
Glycolipids
Glycoproteins
Gonadotropins
Growth factors, animal
Interleukin 1
Interleukin 2
Interleukin 6
Interleukin 8
Lipids, biological studies
Lipoproteins
Metals, biological studies
Monosaccharides
Oligosaccharides, biological studies
Paraffin waxes, biological studies
Peptides, biological studies
Phenolic resins, biological studies
Phospholipids, biological studies
Platelet-derived growth factors
Polyamides, biological studies
Polyanhydrides
Polyesters, biological studies
Polyolefins

Polyoxyalkylenes, biological studies
Polyphosphazenes
Polysaccharides, biological studies
Polysiloxanes, biological studies
Polyurethanes, biological studies
Proteins
Proteoglycans, biological studies
RNA
Shellac
Signal peptides
Transforming growth factors
Tumor necrosis factors
Waxes
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

IT Drug delivery systems
(microcapsules; medical implants coated with biocompatible carbon-containing layers)

IT Antibodies and Immunoglobulins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(monoclonal; medical implants coated with biocompatible carbon-containing layers)

IT Drug delivery systems
(nanocapsules; medical implants coated with biocompatible carbon-containing layers)

IT Anti-inflammatory agents
(nonsteroidal; medical implants coated with biocompatible carbon-containing layers)

IT Absorption
(of drugs into the implant surface; medical implants coated with biocompatible carbon-containing layers)

IT Adsorption
Chemisorption
Immobilization, molecular or cellular
(of drugs onto the implant surface; medical implants coated with biocompatible carbon-containing layers)

IT Solvents
(organic; medical implants coated with biocompatible carbon-containing layers)

IT Prosthetic materials and Prosthetics
(orthopedic; medical implants coated with biocompatible carbon-containing layers)

IT Acids, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(oxidizing; medical implants coated with biocompatible carbon-containing layers)

IT Coating process
(painting; medical implants coated with biocompatible carbon-containing layers)

IT Vapor deposition process
(phys.; medical implants coated with biocompatible carbon-containing layers)

IT Toxins
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(podophyllum toxins; medical implants coated with biocompatible carbon-containing layers)

IT Polyamides, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(poly(amino acids); medical implants coated with biocompatible

carbon-containing layers)
IT Polyurethanes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyester-; medical implants coated with biocompatible carbon-containing layers)
IT Polyurethanes, biological studies
Polyurethanes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polyether-; medical implants coated with biocompatible carbon-containing layers)
IT Amines, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(polymers; medical implants coated with biocompatible carbon-containing layers)
IT Coating process
(powder; medical implants coated with biocompatible carbon-containing layers)
IT Coating process
(printing; medical implants coated with biocompatible carbon-containing layers)
IT Ceramics
(prosthetic implants; medical implants coated with biocompatible carbon-containing layers)
IT Glass ceramics
(prosthetic; medical implants coated with biocompatible carbon-containing layers)
IT Antibacterial agents
(quinolone, fluoroquinolones; medical implants coated with biocompatible carbon-containing layers)
IT Coating process
(spray; medical implants coated with biocompatible carbon-containing layers)
IT Medical goods
(stents; medical implants coated with biocompatible carbon-containing layers)
IT Engineering
(tissue; medical implants coated with biocompatible carbon-containing layers)
IT Podophyllum (plant)
(toxins of; medical implants coated with biocompatible carbon-containing layers)
IT Polyesters, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(urethane group-containing; medical implants coated with biocompatible carbon-containing layers)
IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(α-2a; medical implants coated with biocompatible carbon-containing layers)
IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(α-2b; medical implants coated with biocompatible carbon-containing layers)
IT Adrenoceptor antagonists
(α-; medical implants coated with biocompatible carbon-containing layers)
IT Adrenoceptor antagonists
(β-; medical implants coated with biocompatible carbon-containing layers)
IT Tumor necrosis factors

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(β; medical implants coated with biocompatible carbon-containing layers)

IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(γ; medical implants coated with biocompatible carbon-containing layers)

IT 13598-36-2D, Phosphonic acid, alkylidenebis- derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(Bisphosphonate; medical implants coated with biocompatible carbon-containing layers)

IT 9041-90-1, Angiotensin I
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antagonists; medical implants coated with biocompatible carbon-containing layers)

IT 7782-44-7, Oxygen, uses
RL: NUU (Other use, unclassified); USES (Uses)
(exclusion of; medical implants coated with biocompatible carbon-containing layers)

IT 9015-82-1, ACE 9068-38-6, Reverse transcriptase 9068-52-4, CGMP Phosphodiesterase 9073-60-3, β-Lactamase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(inhibitors; medical implants coated with biocompatible carbon-containing layers)

IT 7440-21-3, Silicon, biological studies 7440-44-0, Carbon, biological studies
RL: TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

IT 50-02-2, Dexamethasone 50-23-7, Hydrocortisone 50-24-8, Prednisolone 50-56-6, Oxytocin, biological studies 50-78-2, Acetylsalicylic acid 51-41-2, Norepinephrine 51-43-4, Epinephrine 51-45-6, Histamine, biological studies 51-61-6, Dopamin, biological studies 52-53-9, Verapamil 53-03-2, Prednisone 53-06-5, Cortisone 53-86-1, Indomethacin 54-05-7, Chloroquine 56-23-5, Carbon tetrachloride, biological studies 56-54-2, Quinidine 56-75-7, Chloramphenicol 57-22-7, Vincristin 57-41-0, Phenytoin 57-62-5 57-92-1, Streptomycin, biological studies 58-14-0, Pyrimethamine 58-61-7, Adenosine, biological studies 59-05-2, Methotrexate 59-30-3, Folic acid, biological studies 60-54-8, Tetracycline 60-54-8D, Tetracycline, derivs. 61-33-6, Penicillin G, biological studies 61-68-7, Mefenamic acid 62-55-5, Thioacetamide 63-74-1, Sulfonamide 64-17-5, Ethanol, biological studies 67-96-9, Dihydrotachysterol 68-35-9, Sulfadiazine 69-53-4, Ampicillin 71-63-6, Digitoxin 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid, esters, polymers 79-57-2, Oxytetracycline 80-08-0, Dapson 83-43-2, Methylprednisolone 87-08-1, Penicillin V 108-05-4D, Vinylacetate, copolymers with phthalates 114-07-8, Erythromycin 118-42-3, Hydroxychloroquine 119-04-0, Framycetin 120-73-0D, Purine, derivs. 124-94-7, Triamcinolone 127-07-1, Hydroxycarbamide 127-31-1, Fludrocortisone 130-95-0D, Quinine, derivs. 137-58-6, Lidocaine 140-64-7, Pentamidine diisethionate 154-21-2, Lincomycin 289-95-2D, Pyrimidine, derivs. 302-79-4, Tretinoin 356-12-7, Fluocinonide 361-37-5 365-26-4, Oxilofrine 370-14-9, Pholedrine 378-44-9, Betamethasone 382-67-2, Desoximetasone 443-48-1, Metronidazol 466-06-8 484-23-1, Dihydralazin 500-92-5, Proguanil 511-12-6, Dihydroergotamine 525-66-6, Propranolol 536-21-0, Norfenefrine 552-94-3, Salsalate 555-30-6, Methyldopa 564-25-0, Doxycycline 586-06-1, Orciprenaline 630-60-4, Ouabain 638-94-8, Desonide 644-62-2 660-27-5, Diisopropyl amine dichloroacetate 709-55-7, Etilefrine 738-70-5, Trimethoprim

768-94-5, Amantadine 807-38-5, Fluocinolone 865-21-4, Vinblastin 1066-17-7, Colistin 1306-05-4, Fluorapatite 1306-06-5, Hydroxylapatite 1393-87-9, Fusafungin 1403-66-3, Gentamicin 1404-00-8, Mitomycin 1404-04-2, Neomycin 1404-26-8, Polymyxin-B 1404-90-6, Vancomycin 1406-05-9, Penicillin 1524-88-5, Flurandrenolide 1695-77-8, Spectinomycin 1951-25-3, Amiodarone 2589-47-1, Prajmaliumbitartrate, biological studies 2809-21-4, Etidronic acid 3056-17-5, Stavudine 3093-35-4, Halcinonide 3385-03-3, Flunisolide 3737-09-5, Disopyramide 3930-20-9, Sotalol 4360-12-7, Ajmalin 4419-39-0, Beclomethasone 4428-95-9, Foscarnet 4828-27-7, Clocortolone 4936-47-4, Nifuratel 5104-49-4, Flurbiprofen 5355-48-6 6452-71-7, Oxprenolol 6990-06-3, Fusidinic acid 7439-95-4D, Magnesium, alloys 7440-06-4, Platinum, biological studies 7440-22-4, Silver, biological studies 7440-25-7, Tantalum, biological studies 7440-32-6, Titanium, biological studies 7440-41-7, Beryllium, biological studies 7440-66-6, Zinc, biological studies 7481-89-2, Zalcitabine 7542-37-2, Paromomycin 7631-86-9, Silica, biological studies 7681-49-4, Sodium fluoride, biological studies 7758-87-4, Tricalciumphosphate 8001-27-2, Hirudin 8025-81-8, Spiramycin 8067-24-1, Dihydroergotoxine methane sulfonate 9000-94-6, Antithrombin 9001-90-5, Plasmin 9002-01-1, Streptokinase 9002-60-2, Corticotropin, biological studies 9002-71-5, Thyrotrophin 9002-72-6, Growth hormone 9002-84-0, Polytetrafluoroethylene **9002-86-2**, Polyvinylchloride **9002-88-4**, Polyethylene **9002-89-5**, Polyvinylalcohol **9003-07-0**, Polypropylene 9003-08-1, Melamine resin 9003-17-2, Polybutadiene 9003-27-4, Polyisobutene 9003-28-5, Polybutene 9003-39-8, Polyvinylpyrrolidone **9003-53-6**, Polystyrene 9004-34-6D, Cellulose, derivs. 9004-54-0, Dextran, biological studies 9004-61-9, Hyaluronic acid 9004-64-2, Hydroxypropylcellulose 9004-65-3, Hydroxypropylmethylcellulose 9004-67-5, Methylcellulose 9005-25-8, Starch, biological studies 9005-49-6, Heparin, biological studies 9007-12-9, Calcitonin 9012-76-4, Chitosan 9039-53-6, Urokinase 9061-61-4, NGF 10118-90-8, Minocycline 10163-15-2, Disodium fluorophosphate 10596-23-3, Clodronic acid 11056-06-7, Bleomycin 11096-26-7, Erythropoietin 11111-12-9, Cephalosporin 11128-99-7, Angiotensin II 12525-40-5, Fluorapatite 12597-68-1, Stainless steel, biological studies 12605-92-4, ASTM F90 12629-01-5, Somatropin 12646-94-5, ASTM F562 12683-48-6 12724-48-0, ASTM F1314 12783-71-0 13010-20-3, Nitrosourea 13292-46-1, Rifampicin 13463-67-7, Titanium dioxide, biological studies 14402-89-2, Nitroprusside sodium 14636-12-5, Terlipressin 15307-86-5, Diclofenac 15663-27-1, Cisplatin 15686-71-2, Cefalexin 15687-27-1, Ibuprofen 15802-18-3 16662-47-8, Gallopamil 16679-58-6, Desmopressin 16846-24-5, Josamycin 18323-44-9, Clindamycin 19216-56-9, Prazosin 19387-91-8, Tinidazol 19388-87-5, Taurolidine 20830-75-5, Digoxin 20830-81-3, Daunorubicin 21256-18-8, Oxaprozin 21829-25-4, Nifedipine 22071-15-4, Ketoprofen 22204-53-1, Naproxen 22254-24-6, Ipratropium bromide 22494-42-4, Diflunisal 23155-02-4, Fosfomycin 23214-92-8, Doxorubicin 24937-78-8, Polyethylenevinyl acetate 25014-41-9, 2-Propenenitrile, homopolymer **25038-59-9**, Polyethyleneterephthalate, biological studies 25122-41-2, Clobetasol 25190-06-1, Polytetramethylene glycol 25322-68-3, Polyethylene oxide 25322-69-4, Polypropylene oxide 25614-03-3, Bromocriptine 25953-19-9, Cefazolin 26009-03-0, Polyglycolide 26023-30-3, D,L-Lactic acid, homopolymer 26063-00-3, Polyhydroxybutyrate 26099-09-2, Polymaleic acid 26100-51-6, Polylactic acid 26171-23-3, Tolmetin 26202-08-4, Polyglycolide 26744-04-7 26787-78-0, Amoxicillin 26807-65-8, Indapamide 26844-12-2, Indoramin 29122-68-7, Atenolol 29679-58-1, Fenoprofen 30209-88-2 30516-87-1, Zidovudine 30578-37-1, Amezinium methyl sulfate 30685-43-9, Metildigoxin 31621-87-1, Polydioxanone 31828-71-4, Mexiletine 32986-56-4, Tobramycin 33069-62-4, Paclitaxel

33515-09-2, Gonadorelin 33774-52-6, Detajmiumbitartrate, biological studies 34346-01-5, Glycolic acid-lactic acid copolymer 34368-04-2, Dobutamine 34661-75-1, Urapidil 35607-66-0, Cefoxitin 36322-90-4, Piroxicam 36703-88-5 36791-04-5, Ribavirin 36877-68-6D, Nitroimidazole, derivs.
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

IT 37203-62-6, Blood coagulation factor XIIa 37246-34-7, ASTM F67-1 37517-28-5, Amikacin 38000-06-5, Polylysine 38194-50-2, Sulindac 38304-91-5, Minoxidil 39562-70-4, Nitrendipine 40391-99-9 41340-25-4, Etodolac 41575-94-4, Carboplatin 42399-41-7, Diltiazem 42794-76-3, Midodrine 42924-53-8, Nabumetone 50370-12-2, Cefadroxil 50972-17-3, Bacampicillin 51022-69-6, Amcinonide 51264-14-3, Amsacrine 51333-22-3, Budesonide 51384-51-1, Metoprolol 51481-65-3, Mezlocillin 51940-44-4, Pipemidic acid 52013-44-2, Nitinol 53123-88-9, Sirolimus 53230-10-7, Mefloquine 53714-56-0, Leuprorelin 53910-25-1, Pentostatin 53994-73-3, Cefaclor 54063-53-5, Propafenone 54143-55-4, Flecainide 54143-56-5, Flecainide acetate 55142-85-3, Ticlopidine 55268-75-2, Cefuroxim 57773-63-4, Triptorelin 57982-77-1, Buserelin 58066-85-6, Miltefosine 59277-89-3, Aciclovir 60608-23-3, ASTM F 136 61036-62-2, Teicoplanin 61477-96-1, Piperacillin 61622-34-2, Cefotiam 61825-94-3, Oxaliplatin 63590-64-7, Terazosin 64544-07-6, Cefuroxime-axetil 65807-02-5, Goserelin 66376-36-1, Alendronic acid 67452-97-5, Alclometasone 67763-97-7, Insulin-like growth factor II **68054-07-9**, ASTM F1586 68335-15-9, Porfimer 68373-14-8, Sulbactam 69304-47-8, Brivudine 69655-05-6, Didanosine 70458-96-7, Norfloxacin 71125-38-7, Meloxicam 72559-06-9, Rifabutin 73771-04-7, Prednicarbate 74011-58-8, Enoxacin 74103-06-3, Ketorolac 74191-85-8, Doxazosin 76470-66-1, Loracarbef 76932-56-4, Nafarelin 77671-31-9, Enoximone 78110-38-0, Aztreonam 78415-72-2, Milrinone 79350-37-1, Cefixim 79660-72-3, Fleroxacin 80214-83-1, Roxithromycin 80738-43-8, Lincosamide 80755-51-7, Bunazosin 81103-11-9, Clarithromycin 81147-92-4, Esmolol 81669-57-0, Anistreplase 82410-32-0, Ganciclovir 82419-36-1, Ofloxacin 82657-92-9, Prourokinase 82768-85-2, Quinaprilat 83105-70-8, Sultamicillin tosylate 83647-97-6, Spirapril 83869-56-1, Colony-stimulating factor 2 83905-01-5, Azithromycin 85721-33-1, Ciprofloxacin 86784-80-7, Corticorelin 87239-81-4, Cefpodoxime proxetil 87679-37-6, Trandolapril 88768-40-5, Cilazapril 89371-37-9, Imidapril 89943-82-8, Cicletanine 89987-06-4, Tiludronic acid 90566-53-3, Fluticasone 95233-18-4, Atovaquone 96036-03-2, Meropenem 97519-39-6, Ceftibutene 97682-44-5, Irinotecan 98530-76-8, Drotrecogin alpha 98651-66-2, Halobetasol 100986-85-4, Levofloxacin 102190-94-3, Polyhydroxyvaleric acid 103775-10-6, Moexipril 104227-87-4, Famciclovir 104993-28-4, Fondaparinux 105102-22-5, Mometasone 105462-24-6 105657-12-3, ASTM F1295 105857-23-6, Alteplase 106096-92-8, FGF-1 106096-93-9, Basic Fibroblast Growth Factor 110942-02-4, Aldesleukin 112811-59-3, Gatifloxacin 113665-84-2, Clopidogrel 113852-37-2, Cidofovir 114084-78-5, Ibandronate 114632-31-4, Diaminopyrimidine 114977-28-5, Docetaxel 118072-93-8, Zoledronic acid 120287-85-6, Cetrorelix 123626-67-5, Endothelin-1 123948-87-8, Topotecan 124832-26-4, Valaciclovir 124904-93-4, Ganirelix 127464-60-2, Vascular Endothelial Growth Factor 127779-20-8, Saquinavir 132517-61-4, Butanedioic acid, 2,3-dihydroxy-(2R,3R)-, homopolymer 133040-01-4, Eprosartan 134678-17-4, Lamivudine **134849-50-6**, ASTM F138 136470-78-5, Abacavir 137862-53-4, Valsartan 139110-80-8, Zanamivir 143653-53-6, Abciximab 144689-63-4, Olmesartanmedoxomil 144701-48-4, Telmisartan 145040-37-5, Candesartancilexetil 147127-20-6, Tenofovir 147536-97-8, Bosentan 150378-17-9, Indinavir 151096-09-2, Moxifloxacin 152459-95-5, Imatinib 153559-49-0, Bexarotene 153832-46-3, Ertapenem 155213-67-5, Ritonavir

159989-64-7, Nelfinavir 161814-49-9, Amprenavir 162011-90-7, Rofecoxib 165800-03-3, Linezolid 169590-42-5, Celecoxib 175865-60-8, Valganciclovir 191114-48-4, Telithromycin 192725-17-0, Lopinavir 196618-13-0, Oseltamivir 259675-91-7, ASTM F1058 681029-93-6, Carboxymethylcellulose-Phthalate 691397-13-4, Pluronic 756482-31-2 756869-89-3, ASTM F2066
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

IT 61912-98-9, IGF
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(α; medical implants coated with biocompatible carbon-containing layers)

IT **9002-86-2**, Polyvinylchloride **9002-88-4**, Polyethylene **9002-89-5**, Polyvinylalcohol **9003-07-0**, Polypropylene **9003-53-6**, Polystyrene **25038-59-9**, Polyethyleneterephthalate, biological studies **68054-07-9**, ASTM F1586 **134849-50-6**, ASTM F138
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(medical implants coated with biocompatible carbon-containing layers)

RN 9002-86-2 HCAPLUS
CN Ethene, chloro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75-01-4
CMF C2 H3 Cl

$H_2C{=}CH{-}Cl$

RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 557-75-5
CMF C2 H4 O

$H_2C{=}CH{-}OH$

RN 9003-07-0 HCAPLUS
CN 1-Propene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 115-07-1
CMF C3 H6

$H_3C-CH=CH_2$

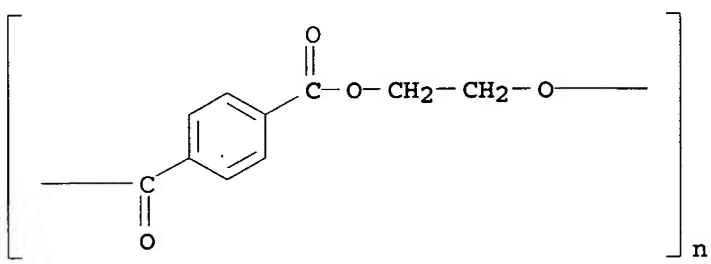
RN 9003-53-6 HCAPLUS
CN Benzene, ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

$H_2C=CH-Ph$

RN 25038-59-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)



RN 68054-07-9 HCAPLUS
CN Iron alloy, base, Fe 57-67,Cr 19.5-22.0,Ni 9.0-11.0,Mn 2.00-4.25,Mo 2.0-3.0,Nb 0.25-0.8,Si 0-0.75,N 0.25-0.5,Cu 0-0.25,C 0-0.08,P 0-0.025,S 0-0.01 (UNS S31675) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 57 - 67 | 7439-89-6 |
| Cr | 19.5 - 22.0 | 7440-47-3 |
| Ni | 9.0 - 11.0 | 7440-02-0 |
| Mn | 2.00 - 4.25 | 7439-96-5 |
| Mo | 2.0 - 3.0 | 7439-98-7 |
| Nb | 0.25 - 0.8 | 7440-03-1 |
| Si | 0 - 0.75 | 7440-21-3 |
| N | 0.25 - 0.5 | 17778-88-0 |
| Cu | 0 - 0.25 | 7440-50-8 |
| C | 0 - 0.08 | 7440-44-0 |
| P | 0 - 0.025 | 7723-14-0 |
| S | 0 - 0.01 | 7704-34-9 |

RN 134849-50-6 HCAPLUS
CN Iron alloy, base, Fe 60-68,Cr 17.00-19.00,Ni 13.00-15.00,Mo 2.00-3.00,Mn 0-2.00,Si 0-0.75,Cu 0-0.50,N 0-0.10,C 0-0.030,P 0-0.025,S 0-0.010 (UNS S31673) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 60 - 68 | 7439-89-6 |
| Cr | 17.00 - 19.00 | 7440-47-3 |
| Ni | 13.00 - 15.00 | 7440-02-0 |
| Mo | 2.00 - 3.00 | 7439-98-7 |
| Mn | 0 - 2.00 | 7439-96-5 |
| Si | 0 - 0.75 | 7440-21-3 |
| Cu | 0 - 0.50 | 7440-50-8 |
| N | 0 - 0.10 | 17778-88-0 |
| C | 0 - 0.030 | 7440-44-0 |
| P | 0 - 0.025 | 7723-14-0 |
| S | 0 - 0.010 | 7704-34-9 |

L67 ANSWER 4 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:925356 RAPRA FS Rapra Abstracts
TI ELECTRO-MAGNETIC INTERFERENCE SHIELDING.
SO High Performance Plastics Oct.2004, p.3/4
ISSN: 0264-7753
PY 2004
DT Journal
LA English
AB LNP Engineering **Plastics** Inc. of the USA is reported in this concise article to have introduced an electromagnetic interference (EMI) shielding material which is made from polycarbonate filled with **stainless steel fibres.** Brief details can be found here on the new material, which is known as "Faradex DS-1003 FR HI", and which uses "Lexan EXL" polycarbonate from GE **Plastics.**
CC 43C12; 981; 627
SC *KQ; UI; OK
CT ABRASION; APPLICATION; BUSINESS MACHINE; **CARBONATE POLYMER**; COMPANIES; COMPANY; **COMPOSITE**; COMPOUND; COMPUTER; DEFLECTION; DESIGN; ELECTRICAL CONDUCTIVITY; ELECTRICAL PROPERTIES; ELECTROMAGNETIC SHIELD; EMI SHIELDING; FIBER; FIBRE; FILLER; FLAME PROOFING; FLAME RETARDANCE; FLAME RETARDANT; GRADE; HALOGEN-FREE; IMPACT PROPERTIES; IMPACT STRENGTH; MECHANICAL PROPERTIES; **PLASTIC**; POLYCARBONATE; PRODUCT ANNOUNCEMENT; PRODUCTION; PROPERTIES; **REINFORCED PLASTIC** ; **REINFORCED PLASTICS**; SHORT ITEM; THERMOPLASTIC; TOOLING; TOUGHNESS; **VOLUME**; WEIGHT; WEIGHT REDUCTION
NPT CARBON BLACK; CARBON FIBER; CARBON FIBRE; STAINLESS STEEL; STEEL
SHR CARBONATE **POLYMERS**, EMI shielding, **composites**;
**COMPOSITES**, EMI shielding, carbonate **polymers**;
ELECTRICAL PROPERTIES, EMI shielding, **composites**, carbonate **polymers**
CO LNP ENGINEERING **PLASTICS** INC.; GE **PLASTICS**
GT USA
TN FARADEX DS-1003 FR HI; LEXAN EXL

L67 ANSWER 5 OF 40 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN
AN 2003-210518 [20] WPIX
DNN N2003-167686 DNC C2003-053874
TI **Stainless steel fiber** used in filter media, has preset equivalent diameter and contains specific amount of carbon, **manganese**, **silicon**, **nickel**, **chromium** , **molybdenum**, **copper**, nitrogen, sulfur and phosphorus.
DC A60 F01 J01 L03 M22 M27 P51 P54 V04 X12 X25
IN DE BONDT, S; DECROP, J

applicant

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PA     (TREB) BEKAERT NV SA; (DBON-I) DE BONDT S; (DECR-I) DECROP J
CYC    101
PI     WO 2003010353    A1 20030206 (200320)* EN   27    C22C038-40     <--
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             MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW
          W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
             DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
             KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
             RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
             ZW
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             MK NL PT RO SE SI SK TR
       AU 2002321157    A1 20030217 (200452)              C22C038-40     <--
       JP 2004536230    W  20041202 (200479)       38     C22C038-00     <--
       US 2004247848    A1 20041209 (200481)              D04H001-00
       US 2004265576    A1 20041230 (200503)              D02G003-00
       CN 1535324       A  20041006 (200506)              C22C038-40     <--
ADT    WO 2003010353 A1 WO 2002-EP7269 20020702; EP 1412549 A1 EP 2002-754809
       20020702, WO 2002-EP7269 20020702; AU 2002321157 A1 AU 2002-321157
       20020702; JP 2004536230 W WO 2002-EP7269 20020702, JP 2003-515699
       20020702; US 2004247848 A1 CIP of WO 2002-EP7269 20020702, US 2004-771276
       20040204, CIP of US 2004-482379 20040220; US 2004265576 A1 WO 2002-EP7269
       20020702, US 2004-482379 20040220; CN 1535324 A CN 2002-814697 20020702
FDT    EP 1412549 A1 Based on WO 2003010353; AU 2002321157 A1 Based on WO
       2003010353; JP 2004536230 W Based on WO 2003010353
PRAI   EP 2001-202775          20010720
IC     ICM  C22C038-00; C22C038-40; D02G003-00; D04H001-00
       ICS  B21C001-00; B21C037-04; B23F001-00; C22C038-58; C25F005-00
AB     WO2003010353 A UPAB: 20030324
```

NOVELTY - A **stainless steel fiber** obtained by bundled drawing of stainless **steel** wires, has equivalent diameter of 0.5-100 mu m. The **steel** fiber has a composition comprising **iron**, carbon (C) (in weight%) ( at most 0.05), **manganese** **(Mn)** ( at most 5), **silicon** ( **Si**) ( at most 2), **nickel** **(Ni)** (8-12), **chromium** **(Cr)** (15-20), **molybdenum** **(Mo** ) ( at most 3), **copper** **(Cu)** ( at most 4), nitrogen (N) ( at most 0.05), sulfur (S) ( at most 0.03) and phosphorus (P) ( at most 0.05).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) manufacture of **stainless steel fibers** by bundled drawing, which involves providing the stainless steel wires comprising iron and having the composition same as the **stainless** **steel fiber**, embedding the **stainless** **steel** wires in a matrix material, enveloping the embedded stainless steel wires with enveloping material to form a composite wire, alternately subjecting the composite wire to a diameter reduction, subjecting the reduced composite wire to a heat-treatment and applying a final reduction, using at least once a deformation of 4.5 to reduce the diameter, providing **stainless steel fibers** by removing the matrix material and enveloping material from the composite wire; and

(2) use of **stainless steel fibers** in filter media.

USE - Used in electrically conductive textiles, flocking, heat-resistant textiles, gas burner membranes, heating elements, conductive plastics, electromagnetic interference (EMI) shielding applications and electrostatic discharge (ESD) applications (all claimed).

ADVANTAGE - The **stainless steel fiber** has a substantially homogeneous composition, with less contamination due to diffusion of the matrix material, over the whole surface of the fibers. Since the bundle of **stainless steel fibers** require less annealing treatments during the drawing of the composite wire to its final diameter, the fibers with improved properties are obtained. The number of annealing treatments are effectively reduced since the steel composition allows high deformation between two annealing treatments. The improved compositional homogeneity provides associated fiber properties, which are more reliable and predictable, and allow a more reliable and economical preventive replacement of the fibers and products comprising the **stainless steel fibers.**

DESCRIPTION OF DRAWING(S) - The figure shows the graph of the fracture strength and strain at fracture of the **stainless steel fibers.**

Dwg.3/3

FS CPI EPI GMPI
FA AB; GI
MC CPI: A08-R05; A12-S05J; F01-D09; J01-H; L03-A02D; L03-G06; M22-H01; M27-B04; M27-B04C; M27-B04N; M27-C01; M27-C02
EPI: V04-U01; X12-D02X; X25-S

L67 ANSWER 6 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:876652 RAPRA FS Rapra Abstracts
TI EFFECTS OF CONDUCTIVE FIBERS AND PROCESSING CONDITIONS ON THE ELECTROMAGNETIC SHIELDING EFFECTIVENESS OF INJECTION MOLDED **COMPOSITES.**
AU Yang S Y; Chen C Y; Parng S H (Taipei,National Taiwan University)
SO Polymer Composites 23, No.6, Dec.2002, p.1003-13
ISSN: 0272-8397
CODEN: PCOMDI
PY 2002
DT Journal
LA English
AB The results are reported of a study of the electromagnetic interference shielding effectiveness of injection moulded ABS disks filled with either **stainless steel fibres** or nickel-coated graphite fibres. The effects of fibre type and fibre length and weight percentage on shielding effectiveness are explored as are the effects of ring gate angle and injection speed on shielding effectiveness, filling pattern and **fibre** distribution. The **stainless steel fibre** dispersion across the thickness and along the flow direction of the **composites** is discussed and the performance of the two **composites** compared. 11 refs.
CC 42C21C391D11; 627; 98T
SC *OK; UI; KF
CT ABS; **CARBON FIBRE-REINFORCED PLASTIC**; COATED; **COMPOSITE**; DATA; DEGREE OF DISPERSION; DISC; DISPERSIVITY; ELECTRICAL PROPERTIES; ELECTROMAGNETIC INTERFERENCE; ELECTROMAGNETIC SHIELD; EMI SHIELDING; FIBER DISTRIBUTION; FIBER LENGTH; FIBRE DISTRIBUTION; FIBRE LENGTH; **FIBRE-REINFORCED PLASTIC**; FILLER; FLOW; GATING; GRAPH; **GRAPHITE FIBER-REINFORCED PLASTIC**; **GRAPHITE FIBRE-REINFORCED PLASTIC**; INJECTION MOLDING; INJECTION MOULDING; INJECTION SPEED; INSTITUTION; MOLD FILLING; MOULD FILLING; **PLASTIC**; PROPERTIES; **REINFORCED PLASTIC**; **REINFORCED PLASTICS**; **STEEL FIBER-REINFORCED PLASTIC**; **STEEL FIBRE-REINFORCED PLASTIC**; TABLES; TECHNICAL; TEST; THERMOPLASTIC; THICKNESS; **VOLUME FRACTION**
NPT NICKEL; STAINLESS STEEL; STEEL
SHR **COMPOSITES**, electromagnetic interference; REINFORCED STYRENE

**POLYMERS**, acrylonitrile butadiene styrene **polymers**, electromagnetic interference; ELECTRICAL PROPERTIES, electromagnetic interference, **composites**, reinforced ABS
GT TAIWAN

L67 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:892817 HCAPLUS
DN 138:107846
ED Entered STN: 25 Nov 2002
TI Adhesion of stainless **steel** to **fiber** reinforced vinyl ester composite
2
AU Melograna, Joseph D.; Grenestedt, Joachim L.
CS Department of Mechanics and Mechanical Engineering, Lehigh University, Bethlehem, PA, 18015, USA
SO Journal of Composites Technology & Research (2002), 24(4), 254-260
CODEN: JCTRER; ISSN: 0884-6804
PB American Society for Testing and Materials
DT Journal
LA English
CC 38-3 (**Plastics** Fabrication and Uses)
Section cross-reference(s): 55, 57
AB Joints between stainless **steel** and glass **fiber** composites were studied, toward use in marine vessels, e.g., a steel hull joined to a composite bow, stern, and/or topside structure. Joints of AL-6XN stainless steel and TH-4000-BTI glass **fiber** layers impregnated with a vinyl ester resin were evaluated. Specimens were manufactured with different surface prepns., adhesives, and/or additives. Short-term transverse tensile strength in dry conditions was used as the measure by which the different strategies were compared. All specimens were manufactured using a vacuum infusion technique, with the **steel** embedded within the **fiber**, followed by infusion of resin and curing in the mold and without secondary bonding.
ST stainless **steel** adhesion glass **fiber** layer resin infused composite; vinyl ester resin joint glass **fiber** **steel** composite; surface priming epoxy resin **steel** adhesion glass **fiber** composite
IT Glass **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(TH-4000-BTI single skin composite layer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)
IT Epoxy resins, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(acrylates, infused resin; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)
IT Adhesive bonding
Joining
Metal matrix composites
Tensile strength
(joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)
IT Glass **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical

process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mats, M8610, separating layer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Polysilanes
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamine-, structural adhesive primer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Polyamines
RL: TEM (Technical or engineered material use); USES (Uses)
(polysilane-, structural adhesive primer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Epoxy resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(surface primers; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT 1338-23-4, Methyl ethyl ketone peroxide
RL: CAT (Catalyst use); USES (Uses)
(curing catalyst; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT 69771-46-6, Derakane 510A-40
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(infused resin; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT **99693-83-1**, AL-6XN
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(stainless steel plates; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT 25068-38-6, EP-420
RL: TEM (Technical or engineered material use); USES (Uses)
(surface primer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT 117753-51-2, KZ 55 138185-68-9, NZ 97
RL: TEM (Technical or engineered material use); USES (Uses)
(zirconate coupling agent; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Ageorges, C; Composites Part A: Applied Science and Manufacturing 2001, V32(6), P839
(2) Bourban, P; Proceedings of the 3rd Materials Engineering Conference 1994, P295
(3) Cagle, C; Handbook of Adhesive Bonding 1973
(4) Cassis, F; Handbook of Composites 2nd edition 1998, P34
(5) Comyn, J; Adhesion Science 1997
(6) DeLollis, N; Adhesives for Metals: Theory and Technology 1970

(7) Dvorak, G; Composites Science and Technology 2001, V61(8), P1123
(8) Kinloch, A; Adhesion and Adhesives 1987
(9) Lawrence, J; Laser Modification of the Wettability Characteristics of Engineering Materials 2001
(10) Lee, L; Adhesive Bonding 1991
(11) Schwartz, M; Joining of Composite Matrix Materials 1995
(12) Schwartz, M; Post Processing Treatment of Composites 1996
(13) Yosomiya, R; Adhesion and Bonding in Composites 1990

IT **99693-83-1**, AL-6XN
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(stainless steel plates; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

RN 99693-83-1 HCAPLUS
CN Iron alloy, base, Fe 42-50,Ni 23.50-25.50,Cr 20.00-22.00,Mo 6.00-7.00,Mn 0-2.00,Si 0-1.00,Cu 0-0.75,N 0.18-0.25,P 0-0.040,C 0-0.030,S 0-0.030 (UNS N08367) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 42 - 50 | 7439-89-6 |
| Ni | 23.50 - 25.50 | 7440-02-0 |
| Cr | 20.00 - 22.00 | 7440-47-3 |
| Mo | 6.00 - 7.00 | 7439-98-7 |
| Mn | 0 - 2.00 | 7439-96-5 |
| Si | 0 - 1.00 | 7440-21-3 |
| Cu | 0 - 0.75 | 7440-50-8 |
| N | 0.18 - 0.25 | 17778-88-0 |
| P | 0 - 0.040 | 7723-14-0 |
| C | 0 - 0.030 | 7440-44-0 |
| S | 0 - 0.030 | 7704-34-9 |

L67 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:564649 HCAPLUS
DN 138:107786
ED Entered STN: 30 Jul 2002
TI Joining steel and composites
AU Grenestedt, Joachim L.; Melograna, Joseph D.
CS Dept. of Mechanical Engineering and Mechanics, Lehigh University, Bethlehem, PA, 18015, USA
SO International SAMPE Symposium and Exhibition (2002), 47(Affordable Materials Technology: Platform to Global Value and Performance, Book 2), 14-22
CODEN: ISSEEG; ISSN: 0891-0138
PB Society for the Advancement of Material and Process Engineering
DT Journal
LA English
CC 38-3 (**Plastics** Fabrication and Uses)
Section cross-reference(s): 55, 57
AB Joining of single skin composite structures to single skin steel structures was evaluated using AL-6XN stainless **steel** and triaxial glass **fiber** TH-4000-BTI and Owens Corning M8610 continuous filament mat structures. The stainless steel was milled down to form grooves and the surface was primed with EP-420 epoxy primer, catalyst, and epoxy reducer, then the strips were sandwiched between TH-4000-BTI glass **fiber** layers and separated with M8610 mats

matching the steel plate thickness. The vinyl ester resin, Dow Derakane 510A-40 mixed with MEKP [methyl Et ketone peroxide] was vacuum infused to fill the mold and after curing, the joint specimens were cot to obtain test specimens. Only adhesive bonding was considered, but some different methods to achieve high strength were studied. Three different ways to lower the effective stiffness of the steel, and thus reduce the elastic mismatch between the steel and the composite, were studied. The strength of the specimens was determined by tensile tests and results were compared to alternative methods of reducing elastic mismatch.

ST stainless **steel** plate glass **fiber** single skin mat joint; vinyl ester resin infusion **steel** plate **fiberglass** mat composite; adhesion tensile strength **steel** glass **fiber** mat vinylester resin

IT Glass **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(TH-4000-BTI single skin composite layer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Epoxy resins, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(acrylates, infused resin; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Adhesive bonding
Joining
Metal matrix composites
Stiffness
Tensile strength
(joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Glass **fibers**, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(mats, M8610, separating layer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT Epoxy resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(surface primers; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT 1338-23-4, Methyl ethyl ketone peroxide
RL: CAT (Catalyst use); USES (Uses)
(curing catalyst; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT 69771-46-6, Derakane 510A-40
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(infused resin; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)

IT **99693-83-1**, AL-6XN
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(stainless steel plates; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)
IT 25068-38-6, EP-420
RL: TEM (Technical or engineered material use); USES (Uses)
(surface primer; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Adams, R; Joining Fibre-Reinforced Plastics 1986, P185
(2) Allegheny Ludlum Corporation; Technical Data Blue Sheet 2001
(3) Comyn, J; Adhesion Science 1997
(4) Hart-Smith, L; Engineered Materials Handbook, Composite Structures Analysis and Design 1988, V1, P479
(5) Hart-Smith, L; Joining Fibre-Reinforced Plastics 1986, P271
(6) Melograna, J; Adhesion of Stainless Steel to Fiber Reinforced Vinyl Ester Composite (submitted) 2001
(7) Melograna, J; Improving Joints Between Composites and Steel Using Perforations (submitted) 2002
(8) Peters, S; Handbook of Composites 2nd edition 1998
(9) Unden, H; US 4673606 1985
(10) Yosomiya, R; Adhesion and Bonding in Composites 1990
IT **99693-83-1**, AL-6XN
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(stainless steel plates; joining **steel** plates and glass **fiber** composite layers by resin infusion and curing and tensile testing and minimization of elastic mismatch of joints)
RN 99693-83-1 HCAPLUS
CN Iron alloy, base, Fe 42-50,Ni 23.50-25.50,Cr 20.00-22.00,Mo 6.00-7.00,Mn 0-2.00,Si 0-1.00,Cu 0-0.75,N 0.18-0.25,P 0-0.040,C 0-0.030,S 0-0.030 (UNS N08367) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 42 - 50 | 7439-89-6 |
| Ni | 23.50 - 25.50 | 7440-02-0 |
| Cr | 20.00 - 22.00 | 7440-47-3 |
| Mo | 6.00 - 7.00 | 7439-98-7 |
| Mn | 0 - 2.00 | 7439-96-5 |
| Si | 0 - 1.00 | 7440-21-3 |
| Cu | 0 - 0.75 | 7440-50-8 |
| N | 0.18 - 0.25 | 17778-88-0 |
| P | 0 - 0.040 | 7723-14-0 |
| C | 0 - 0.030 | 7440-44-0 |
| S | 0 - 0.030 | 7704-34-9 |

L67 ANSWER 9 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 2002(5):D2-D-197 EMA
TI The structure and properties of centrifuged epoxy **resin/ stainless steel** short **fiber** functionally graded materials.

AU Zhou, Z. (Tianjin University); Yang, Z. (Tianjin University)
SO Cailiao Gongcheng (Journal of Materials Engineering) (China) (Dec. 2001), Graphs, 4 ref. p. 107-108, 106, 2001, China
ISSN: 1001-4381
DT Journal
CY China
LA Chinese
AB The **stainless steel** short **fiber** (SSSF) made by the method of mechanical vibration cutting was used as a reinforcing material. Epoxy **resin** filled with the SSSF was prepared under centrifugal force in order to obtain functionally gradient materials. The gradient in fiber content was evaluated from the density distribution of a sample in the direction of centrifugal force. The electrical conductivity of the sample was measured by the parallel plate electrode method. The effects of processing parameters such as rotation speed, rotation time and viscosity on the gradient of the fiber distribution in the epoxy **resin** were investigated for these **composites**. The result shows that with the increase of centrifugation speed, the distribution extent of the SSSF becomes narrow, and the gradient in fiber content increases. The study of the conductivity shows that there is a **fiber volume** content threshold (4.5%-5.5%). The threshold is corresponding with the formation of the fiber network.
CC D Composites; D2 Materials Development; D-D2
CT Journal Article; Epoxy **resins**: **Composite** materials; Stainless steels: **Composite** materials; Fiber reinforced **plastics**: Synthesis; Functionally gradient materials: Synthesis; Viscosity; Density; Process parameters

L67 ANSWER 10 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:815471 RAPRA FS Rapra Abstracts
TI SHIELDING FOR EMI AND ANTISTATIC **PLASTIC RESINS** WITH **STAINLESS STEEL FIBRES.**
AU Hochberg A; Versieck J (Bekaert Fiber Technologies)
SO Plastics Additives & Compounding 3, No.3, March 2001, p.24-8
ISSN: 1464-391X
PY 2001
DT Journal
LA English
AB The use is discussed of stainless steel reinforced **plastics** to provide EMI shielding and antistatic properties. The length of the fibre and fibre levels are examined as a function of electrical activity, and the effects on mechanical properties in the finished product are described with reference to shrinkage, impact properties and warpage. Due to the low weight percentage needed to provide electrical conductivity and even much lower **volume** percentage in the **plastic resin**, the steel fibres are shown to have a minimum effect on these properties.
CC 6277; 98
SC *OK; UI
CT ANTISTATIC PROPERTIES; ASPECT RATIO; BINDER; **CARBONATE POLYMER**; COMPANIES; COMPANY; **COMPOSITE**; DATA; DENSITY; ELECTRICAL CONDUCTIVITY; ELECTRICAL RESISTIVITY; ELECTROMAGNETIC SHIELD; ELECTROSTATIC DISSIPATION; EMI SHIELDING; FIBER BUNDLE; FIBER DIAMETER; FIBER LENGTH; FIBRE BUNDLE; FIBRE DIAMETER; FIBRE LENGTH; **FIBRE-REINFORCED PLASTIC**; FLEXURAL MODULUS; FLEXURAL PROPERTIES; GRAPH; IMPACT PROPERTIES; IMPACT STRENGTH; MECHANICAL PROPERTIES; PELLET; **PLASTIC**; POLYCARBONATE; PROCESSABILITY; PROCESSIBILITY; PROPERTIES; **REINFORCED PLASTIC**; **REINFORCED PLASTICS**; RESISTIVITY; SHRINKAGE; STATIC DISSIPATION; **STEEL FIBER-REINFORCED PLASTIC**; **STEEL FIBRE-REINFORCED PLASTIC**; SURFACE

PROPERTIES; SURFACE RESISTIVITY; TABLES; TECHNICAL; THERMOPLASTIC;
THERMOSET; **VOLUME FRACTION**; WARPAGE
NPT STAINLESS STEEL; STEEL
SHR REINFORCED **PLASTICS**, **stainless steel fibres**, electrostatic dissipation, electrical conductivity; CONDUCTIVITY, electrical, **stainless steel fibres**, reinforced **plastics**; ELECTRICAL PROPERTIES, antistatic properties, **stainless steel fibres**, reinforced **plastics**, conductivity, EMI shielding
GT EUROPEAN COMMUNITY; EUROPEAN UNION; NETHERLANDS; WESTERN EUROPE

L67 ANSWER 11 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 2000(11):E2-D-311 EMA
TI Development of conductive knitted-fabric-reinforced thermoplastic **composites** for electromagnetic **shielding** applications.
AU Cheng, K.B. (National Taipei University of Science and Technology); Ramakrishna, S. (National University of Singapore); Lee, K.C. (Chinese Culture University (Taiwan))
SO Journal of Thermoplastic Composite Materials (Sept. 2000) 13, (5), Numerical Data, Photomicrographs, 14 ref. p. 378-399, 2000, USA
ISSN: 0892-7057
DT Journal
CY United States
LA English
AB This paper presents a feasibility study to develop conductive knitted-fabric-reinforced thermoplastic **composites** for electromagnetic **shielding** applications. Polypropylene is the matrix phase, and glass fibers are the reinforcement phase of the **composite** material. Stainless steel **wires** and staple yarns are incorporated as conductive fillers to facilitate the electromagnetic **shielding** properties of the **composite** material. Owing to their high stiffness, knitting of glass **fibers** and **stainless steel wires** is very difficult. To facilitate the knitting, uncommingled yarns comprising stainless steel **wires**, glass, and polypropylene fibers are produced using a hollow spindle spinning method. Different kinds of weft knitted fabrics are produced, which are subsequently consolidated into **composite** materials using a compression molding method. The electromagnetic **shielding** effectiveness (EMSE) of various knitted **composites** is measured in the frequency range of 300 kHz to 3 GHz. The variations of EMSE of knitted **composites** with the fabric structure, stitch density, number of plies, and amount of stainless steel are described. The suitability of the knitted **composites** developed in this study for electromagnetic **shielding** applications is also discussed.
CC D Composites; E2 Working and Forming; D-E2
CT Journal Article; Glass fiber reinforced **plastics**: Development; Polypropylenes: **Composite** materials; Metal fibers: **Composite** materials; Electromagnetic **shielding**: Materials selection; Electrical conductivity

L67 ANSWER 12 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 2000(4):C1-D-990 EMA
TI Creep behavior of metal fiber-PPE **composites** and effect of test surroundings.
AU Biswas, K.K. (Keio University); Somiya, S. (Keio University); Endo, J. (Keio University)
SO Mechanics of Time-Dependent Materials (1999) 3, (1), Numerical Data, Graphs, 15 ref. p. 85-101, 1999, Netherlands
ISSN: 1385-2000

DT Journal
CY Netherlands
LA English
AB The effect of environment on creep behavior of Poly-Phenylene Ether (PPE) **composites** with **stainless steel fiber** was investigated in this research. The results of creep behavior of PPE **composites**, carried out both in air and oil surroundings at elevated temperatures, show very good agreement with the Arrhenius reciprocation law of time-temperature. It was, however, observed that there was comparatively greater departure from good superposition in the creep compliance curve for oil surroundings in long period creep. The minute changes in activation energy for creep phenomena in different surroundings were observed. The effect of **fiber volume** fraction on creep behavior was also studied. In addition, a brief investigation of the effect of physical aging was done, with the results clearly showing that smoothness in the creep compliance master curve depends on the degree of physical aging of the matrix **resin.**
CC D Composites; C1 Mechanical Properties; D-C1
CT Journal Article; Polyphenylene ethers: **Composite** materials; Stainless steels: **Composite** materials; Fiber reinforced **plastics**: Mechanical properties; Creep (materials): Composition effects; Volume fraction; Mathematical analysis

L67 ANSWER 13 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 1999(3):C2-D-101 EMA
TI Frictional characteristics of **composite** orthodontic archwires against stainless steel and ceramic brackets in the passive and active configurations.
AU Zufall, S.W. (University of North Carolina); Kennedy, K.C. (University of North Carolina); Kusy, R.P. (University of North Carolina)
SO Journal of Materials Science: Materials in Medicine (Nov. 1998) 9, (11), Graphs, Photomicrographs, 29 ref. p. 611-620, 1998, UK
ISSN: 0957-4530
DT Journal
CY United Kingdom
LA English
AB The frictional characteristics of prototype **composite** archwires were investigated. The resistance to sliding was measured in the dry state for wires with three different **volume** fractions of **fiber** reinforcement against **stainless steel**, polycrystalline alumina, and single crystal alumina orthodontic brackets. Each archwire and bracket combination was tested at 34 deg C with twelve different normal forces (from 0-400 g) and six different angulations (from 0-12.5 deg ). The kinetic coefficients of friction were determined from the slopes of linear regressions through plots of the resistance to sliding versus normal force data. The y-intercepts of these regressions were also evaluated as indicators of the binding magnitude. The tested archwire samples were examined for wear using a scanning electron microscope. A fully factorial model analysis-of-variance showed no significant differences in the frictional coefficients for changes in bracket material, reinforcement level, or angulation. Highly significant differences were observed in the y-intercepts for changes in the reinforcement level and angulation. Highly significant, positive, and linear correlations between the y-intercepts and angulations were also established. Abrasive wear of the **composite** surface was observed at the archwire-bracket interface, particularly at higher normal forces and angulations. Relative to other frictional studies of metallic archwire materials, the **composite** archwires had higher kinetic coefficients of friction than stainless steel but lower coefficients than either nickel titanium or beta-titanium archwires against all bracket

materials tested.
CC D Composites; C2 Physical Properties; D-C2
CT Journal Article; Oriented fiber **composites**: Surface properties; Fiber reinforced **plastics**: Surface properties; Dental materials: Surface properties; Wire: Surface properties; Frictional wear; Abrasive wear; Sliding friction; Wear resistance
ET C

L67 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:187751 HCAPLUS
DN 128:246706
ED Entered STN: 01 Apr 1998
TI On the study of FRP tool - improvement of measurement and work
AU Ishii, Shigenori; Inami, Yasushi; Iwasaki, Masami
CS Dep. Mechanical Eng., Niihama Natl. Coll. Technol., Niihama, 792, Japan
SO Niihama Kogyo Koto Senmon Gakko Kiyo (1998), 34, 9-13
CODEN: NKKKFS; ISSN: 1342-6540
PB Niihama Kogyo Koto Senmon Gakko
DT Journal
LA Japanese
CC 55-11 (Ferrous Metals and Alloys)
Section cross-reference(s): **38**
AB More precise expts. were carried out in view of inaccuracy in 1995 expts. regarding the hardness measurement and the value of stock removal in grinding of tool steels (SK5, S55C). In the present expts. the standard block for hardness measurement was prepared, and a guide was provided for the measurement. The wear loss of FRP tool and stock removal are large in the case of large **fiber** diameter, large load, low feed speed and high grinding speed. The surface roughness shows a min. value in all grinding conditions after 35 times of grinding.
ST **steel** grinding **fiber** reinforced plastic tool; hardness measurement steel grinding FRP tool; wear FRP tool steel polishing
IT Grinding (size reduction)
Hardness (mechanical)
Tools
(on study of FRP tool in grinding steels - improvement of hardness measurement and work)
IT Plastics, uses
RL: NUU (Other use, unclassified); USES (Uses)
(on study of FRP tool in grinding steels - improvement of hardness measurement and work)
IT Wear
(wear loss of FRP tool and stock removal in grinding steels)
IT 39344-91-7, S55C, processes **51542-72-4**, SK5, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(on study of FRP tool in grinding steels - improvement of hardness measurement and work)
IT **51542-72-4**, SK5, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(on study of FRP tool in grinding steels - improvement of hardness measurement and work)
RN 51542-72-4 HCAPLUS
CN Steel, (AISI W1-8) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 97 - 99 | 7439-89-6 |
| C | 0.80 - 0.90 | 7440-44-0 |
| Mn | 0.10 - 0.40 | 7439-96-5 |

| | | | |
|---|---|---|---|
| Si | 0.10 - | 0.40 | 7440-21-3 |
| Cu | 0 - | 0.20 | 7440-50-8 |
| Ni | 0 - | 0.20 | 7440-02-0 |
| Cr | 0 - | 0.15 | 7440-47-3 |
| W | 0 - | 0.15 | 7440-33-7 |
| Mo | 0 - | 0.10 | 7439-98-7 |
| V | 0 - | 0.10 | 7440-62-2 |
| P | 0 - | 0.030 | 7723-14-0 |
| S | 0 - | 0.030 | 7704-34-9 |

L67 ANSWER 15 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:666690 RAPRA FS Rapra Abstracts
TI MICROSTRUCTURE AND **VOLUME** RESISTIVITY OF **COMPOSITES** OF ISOTACTIC PP REINFORCED WITH ELECTRICALLY CONDUCTIVE FIBRES.
AU Weber M; Kamal M R (McGill University)
SO Polymer Composites 18, No.6, Dec.1997, p.726-40
ISSN: 0272-8397
CODEN: PCOMDI
PY 1997
DT Journal
LA English
AB The effect of processing method on the microstructure and **volume** resistivity of PP reinforced with nickel-coated graphite **fibres** or **stainless steel fibres** is presented.
Samples were produced by compression moulding, extrusion and injection moulding. The dependence of measured resistivity on processing-induced microstructure is discussed. 40 refs.
CC 42C12; 6276; 6277; 834; 82; 831; 981T
SC *UI; SD; SC; OK; KE
CT CALCULATION; **CARBON FIBRE-REINFORCED PLASTIC**; CHEMICAL STRUCTURE; **COMPOSITE**; COMPRESSION MOLDING; COMPRESSION MOULDING; DATA; ELECTRICAL RESISTIVITY; EXTRUDING; EXTRUSION; **FIBRE-REINFORCED PLASTIC**; GRAPH; **GRAPHITE FIBER-REINFORCED PLASTIC**; **GRAPHITE FIBRE-REINFORCED PLASTIC**; INJECTION MOLDING; INJECTION MOULDING; INSTITUTION; MOLDING; MOLECULAR STRUCTURE; MOULDING; ORIENTATION; **PLASTIC**; POLYPROPENE; POLYPROPYLENE; PP; PROCESS; PROCESSING; **REINFORCED PLASTIC**; **REINFORCED PLASTICS**; RESISTIVITY; **STEEL FIBER-REINFORCED PLASTIC**; **STEEL FIBRE-REINFORCED PLASTIC**; TABLES; TECHNICAL; THEORY; THERMOPLASTIC
NPT NICKEL
SHR ELECTRICAL PROPERTIES, resistivity, graphite fibre reinforced PP, steel fibre reinforced PP; INJECTION MOULDING, graphite fibre reinforced PP, steel fibre reinforced PP; EXTRUSION, graphite fibre reinforced PP, steel fibre reinforced PP; COMPRESSION MOULDING, graphite fibre reinforced PP, steel fibre reinforced PP; REINFORCED PROPYLENE **POLYMERS**, nickel coated graphite fibres, steel fibres, **volume** resistivity, compression moulding, extrusion, injection moulding
GT CANADA

L67 ANSWER 16 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 1998(2):C3-D-11 EMA
TI Microstructure and volume resistivity of **composites** of isotactic polypropylene reinforced with electrically conductive fibers.
AU Kamal, M.R. (McGill University (Canada)); Weber, M. (McGill University (Canada))
SO Polymer Composites (Dec. 1997) 18, (6), Numerical Data, Graphs, Photomicrographs, 40 ref. p. 726-740, 1997, USA
ISSN: 0272-8397

DT Journal
CY United States
LA English
AB The effect of processing method on the microstructure and volume resistivity of polypropylene reinforced with nickel-coated graphite (NCG) **fibers** or **stainless steel** (SS) **fibers** is presented. Samples were produced by compression molding, extrusion, and injection molding. The volume resistivity of the **composites** was measured in three perpendicular test directions to determine anisotropy. The stress and thermal fields experienced during processing determine the ultimate microstructure. The measured resistivity is dependent on this processing-induced microstructure as reflected by the distribution of fiber orientation, length, and concentration. **Composites** in which the fiber orientation is anisotropic also exhibit anisotropic resistivity. Volume resistivity is lowest in the principcal direction of fiber orientation. Samples with the greatest fiber length become conductive at the lowest fiber loadings. Resistivity decreases with an increase in fiber loading, but concentration gradients are often produced, especially in the injection molded samples. High fiber concentrations generally resulted in poor dispersion and wetting. The intertwining and bending of the SS fibers make processing difficult. A comparison between the two types of fibers reveals that, for the systems considered in this study, the SS fibers impart conductivity at lower loadings, but that the NCG fiber **composites** are ultimately more conductive.
CC D Composites; C3 Electrical and Magnetic Properties; E2 Working and Forming; D-C3; D-E2
CT Journal Article; Fiber reinforced **plastics**: Electrical properties; Polypropylenes: **Composite** materials; Carbon fibers: Coating; Graphite: Coating; Nickel: Coatings; Metal fibers: **Composite** materials; Stainless steels: **Composite** materials; Pressure molding; Injection molding; Extrusion; Electrical conductivity: Microstructural effects; Resistivity: Microstructural effects; Fiber orientation: Processing effects; Morphology: Processing effects; **Fiber volume**

L67 ANSWER 17 OF 40 JICST-EPlus COPYRIGHT 2005 JST on STN
AN 970584796 JICST-EPlus
TI Study of Creep Behavior of Stainless Fiber PPE **Resin** By TDUL Machine.
AU ENDO JUN; IGARASHI KAZUO; KAWAKAMI TSUTOMU; SOMIYA SATOSHI BISWAS K K
CS Grad. Sch., Keio Univ.
Keio Univ.
SO Nippon Kikai Gakkai Tsujo Sokai Koenkai Koen Ronbunshu (Proceedings of the International Sessions JSME Spring Annual Meeting), (1997) vol. 74th, no. 2, pp. 578-579. Journal Code: X0588A (Fig. 3, Tbl. 2, Ref. 2)
CY Japan
DT Conference; Short Communication
LA Japanese
STA New
AB Creep behavior of **stainless steel fiber**/ PolyPhenylene Ether (PPE) **composites** of different fiber weight fractions have been investigated in silicon oil surroundings. The creep compliance of the **composite** is depended on the time and temperature such that with the increase in time and/or temperature, creep compliance increases. It has been found that the reciprocation law of time and temperature of Arrhenius type hold good for the short period creep. The non-linearity in creep compliance master curve **drawn** at 90.DEG.C. as standard temperature have been seen in the oil surroundings

rather than in air surroundings for the long period creep. And the influence of physical aging on non-linear behavior of creep compliance has also been investigated. (author abst.)
CC HC06030K (539.376:678)
CT metal fiber; fiber reinforced **plastic**; stainless steel; polyphenylene; creep test; thermal deformation; electromagnetic wave; **shield**(tunneling); staple fiber
BT metallic material; inorganic man made fiber; man-made fiber; fiber; high temperature fiber; reinforced **plastic**; **composite** material; material; high alloy steel; alloy steel; steel; iron and steel; anti-corrosion metal; polyarylene; **polymer**; material testing; test; deformation; wave motion

L67 ANSWER 18 OF 40 JICST-EPlus COPYRIGHT 2005 JST on STN
AN 960768208 JICST-EPlus
TI Effects of **Fiber Volume** Fraction on Creep Compliance of **Composites** of Metamorphic Poly-Phenylene Ether with **Stainless Steel Fiber.**
AU IGARASHI KAZUO
SOMIYA SATOSHI
CS Grad. Sch., Keio Univ.
Keio Univ., Fac. of Sci. and Technol.
SO Nippon Kikai Gakkai Ronbunshu. A (Transactions of the Japan Society of Mechanical Engineers. A), (1996) vol. 62, no. 600, pp. 1761-1766. Journal Code: F0227B (Fig. 9, Tbl. 2, Ref. 9)
ISSN: 0387-5008
CY Japan
DT Journal; Article
LA Japanese
STA New
AB **Polymer** matrix **composites** have sometimes been used for shielding electro magnetic interference(EMI). In order to make clarify the effects of the **fiber volume** fraction of the **composites** on creep phenomenon, the creep behavior during 3-point-bending creep tests was investigated at various constant temperatures. The material used had **stainless steel fiber** conductive fillers and a metamorphic poly-phenylene ether matrix. Three **fiber volume** fractions were 0.73,1.52 and 2.39%. The master curves of creep compliance were obtained by applying the Arrhenius reciprocation laws of time and temperature for all materials. The shapes of the 3 master curves were found to be the same, being shifted on the time axis and on the creep compliance axis. Therefore it was concluded that creep behavior of the materials depended mainly on the viscoelastic property of the matrix **resin** and also depended not only on time and temperature, but also on **fiber volume** fraction. (author abst.)
CC HC06030K (539.376:678)
CT fiber reinforced **plastic**; creep; electromagnetic shielding; polyphenylene oxide; metal fiber; stainless steel; compliance; solid-like viscoelasticity; Arrhenius equation; volume fraction; creep test; bending load
BT reinforced **plastic**; **composite** material; material; mechanical property; property; shielding; thermoplastic; **plastic** ; polyaryl ether; polyether; **polymer**; metallic material; inorganic man made fiber; man-made fiber; fiber; high temperature fiber; high alloy steel; alloy steel; steel; iron and steel; anti-corrosion metal; elasticity(mechanical property); viscoelasticity; formula; ratio; material testing; test; load(weight)

L67 ANSWER 19 OF 40 EMA COPYRIGHT 2005 CSA on STN

AN 1996(6):C1-D-1155 EMA
TI A comparative study of concrete reinforced with carbon, polyethylene, and steel fibers and their improvement by latex addition.
AU Chen, P.-W. (State University of New York (Buffalo)); Chung, D.D.L. (Niagara Mohawk Power)
SO ACI Materials Journal (Mar.-Apr. 1996) 93, (2), Graphs, 17 ref. p. 129-133, 1996, USA
ISSN: 0889-325X
DT Journal
CY United States
LA English
AB Mortars containing carbon, polyethylene, and **stainless steel fibers** at the same **volume** fraction and with similar fiber diameters were compared in terms of tensile, compressive, and flexural properties. Carbon fibers, though having the lowest tensile modulus, strength, and elongation at break among the fiber types, gave mortar of the highest tensile strength and lowest cost; polyethylene fibers, due to their high ductility, gave mortar of the highest flexural toughness; and steel fibers gave mortar of the highest flexural strength. The tensile, compressive, and flexural strengths and flexural toughness were all increased by latex addition for any fiber type.
CC D Composites; C1 Mechanical Properties; D-C1
CT Journal Article; Concrete reinforcements: Mechanical properties; Carbon fiber reinforced concretes: Mechanical properties; Polyethylenes: **Composite** materials; Metal fibers: **Composite** materials; Modulus of rupture in bending: Composition effects; Compressive strength: Composition effects; Tensile strength: Composition effects; Latex: Additives

L67 ANSWER 20 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 1996(2):C1-Z-369 EMA
TI Serial lecture: science and technology in **composite** materials-bioactive ceramics.
AU Kokubo, T.
SO Ceramics Japan (1995) 30, (3), Photomicrographs, 44 ref. p. 223-229, 1995
ISSN: 0009-031X
DT Journal
LA Japanese
AB When artificial bone is inserted in bone's missing portion, generally the biostructure surrounds it with fibrous living tissues, and attempts to separate it from surrounding bones. This is a self defense of human body against foreign materials. Nevertheless in order to form such a film, it will be difficult to fix artificial material to missing section bone. There are few ceramics which do not produce such fibrous film, thus a natural, strong bonding is created with the bone, becoming one entity with the bone. The mechanical properties of bone, fused hydroxyapatite, crystalline glass and ceramics are tabulated. Regarding ceramics compounding tests, in order to enhance bending and fracture ductility properties of bioceramics, methods like: addition of 60% **volume** of **stainless steel fibers** imbedded unidirectionally in a bioglass, or scattering of 30% volume of Fe-Cr-Al in fused hydroxide apatite are done among other methods. The mechanism by which bio-properties are given to titanium metal due to acrylate aqueous bath and thermal processes are illustrated with an overview of cements in the ceramics and organic high molecule compounds applications, along with SEM photographs of polyterephtalate acid ethylene micro-fiber structures.
CC Z Combined Coverage; C1 Mechanical Properties; Z-C1
CT Journal Article; Hydroxyapatite: Mechanical properties; Ceramic matrix **composites**: Mechanical properties; Ductility; Fracture toughness;

Biocompatibility
ET Al*Cr*Fe; Al sy 3; sy 3; Cr sy 3; Fe sy 3; Fe-Cr-Al

L67 ANSWER 21 OF 40 JICST-EPlus COPYRIGHT 2005 JST on STN
AN 930591320 JICST-EPlus
TI Thermal Properties of **Stainless Steel-Fiber** /Wood-Particle **Composites.** I. Production and Fundamental properties of **stainless steel-fiber** /wood-particle **composites.**
AU SHIBUSAWA TATSUYA; SHIDA SATOSHI; OKUMA MOTOAKI
CS Univ. of Tokyo, Faculty of Agriculture
SO Mokuzai Gakkaishi (Journal of the Japan Wood Research Society), (1993) vol. 39, no. 6, pp. 642-649. Journal Code: F0852A (Fig. 11, Tbl. 2, Ref. 4)
CODEN: MKZGA7; ISSN: 0021-4795
CY Japan
DT Journal; Article
LA Japanese
STA New
AB How adhesives and **stainless steel-fibers** influenced the production processes, moduli of rupture, internal bond-strengths and thermal conductivities of new materials, **stainless steel-fiber**/wood-particle **composites** are discussed. **Stainless steel-fibers** with shape and **volume** similar to wood-particles were uniformly mingled with wood-particles not using a particular operation. Using phenolic **resin**, the moduli of rupture of the **composites** decreased being 75% of that of the control (particleboard without **stainless steel-fibers** ). Using isocyanate **resin**, moduli of rupture compared with that of 100-type particleboard specified by JIS(Japan Inductrial Standerd) A 5908. Because bending strengths have relationships with apparent specific-gravities of the **composites**, the bending strengths could be designed by adjusting the apparent specfic-gravities. Using phenolic **resin**, internal bond-strengths of the **composites** also decreased, but using isocyanate **resin**, a greater strength could be obtained. Internal bond-strength had relationships with the apparent densities of the **composites** calculated from wood-particles and **resin**, eliminating **stainless steel.** Because **stainless steel-fiber** has great thermal conductivity, when mingled with wood-particle the heat transmission paths in the **composites** change, and because of the reduction of wood-particles, the contact state between elements and the internal constisution of the **composites** change. Thermal conductivity therefore changed with **stainless steel-fiber** content, and the tendency of the change was complicated, but it could be calculated from the thernal conductibities of the constituents and Kollmann's bridge factor "Z". (abridged author abst.)
CC FF05033J (674.2+674.8)
CT particle board; stainless steel; metal fiber; synthetic **resin** adhesive; **composite** material; bending strength; exfoliation; thermal conductivity; phenolic **resin**
BT wood based material; material; high alloy steel; alloy steel; steel; iron and steel; metallic material; anti-corrosion metal; inorganic man made fiber; man-made fiber; fiber; high temperature fiber; adhesive; mechanical property; property; strength; stripping; heat transmission coefficient; coefficient; ratio; transport coefficient; **polymer**; thermosetting **plastic**; **plastic**

L67 ANSWER 22 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN

AN R:507421 RAPRA FS Rapra Abstracts
TI POLYPROPYLENE **COMPOSITES** REINFORCED WITH ELECTRICALLY CONDUCTIVE FIBRES.
AU Weber M E; Kamal M R
CS McGill University
SO Antec '93. Conference Proceedings
Editor(s): SPE
New Orleans, La., 9th-13th May 1993, Vol.I, p.618-23. 012
PY 1993
DT Conference Article
LA English
AB PP **composite** specimens containing electrically conductive nickel coated graphite **fibres** and **stainless steel fibres** were prepared by different processing methods, including mixing/compression moulding, extrusion and extrusion followed by compression moulding. The **volume** resistivity and microstructure of the **composites** were determined, and the relationship between them was evaluated. **Volume** resistivity was strongly dependent on the processing method used and the different fibre orientations produced. Model predictions for resistivity were calculated using the percolation theory and compared to the experimental results. 11 refs.
CC 42C12; 6276; 6277; 981T
SC *OK; KE; UI
CT ANALYSIS; ANISOTROPY; ASPECT RATIO; **CARBON FIBRE-REINFORCED PLASTIC**; CFRP; COATED FIBRE; COMPANY; **COMPOSITE**; COMPRESSION MOULD; CONDUCTIVE COATING; CONDUCTIVE FIBRE; CONDUCTIVE FILLER; **CONDUCTIVE PLASTIC**; CONFERENCE; DATA; ELECTRICAL CONDUCTIVITY; ELECTRICAL PROPERTIES; ELECTRICAL RESISTIVITY; EQUATION; EXTRUSION; FIBRE ALIGNMENT; FIBRE BUNDLE; FIBRE CONTENT; FIBRE LENGTH; FIBRE ORIENTATION; FIBROUS FILLER; FILLER; GRAPH; GRAPHITE FIBRE; **GRAPHITE FIBRE-REINFORCED PLASTIC**; ISOTROPY; LONG FIBRE; **METAL FIBRE-REINFORCED PLASTIC**; METALLISING; MICROSCOPY; MICROSTRUCTURE; MIXING; MODEL; PERCOLATION; **PLASTIC**; POLYPROPYLENE; POWER LAW; PP; PROCESSING; **REINFORCED PLASTIC**; REINFORCED THERMOPLASTIC; **STEEL FIBRE-REINFORCED PLASTIC**; SURFACE TREATMENT; TABLES; TECHNICAL; TEST; THEORY; THERMOPLASTIC; **VOLUME FRACTION**; **VOLUME RESISTIVITY**; **CARBON FIBER-REINFORCED PLASTIC**; COATED FIBER; COMPRESSION MOLD; CONDUCTIVE FIBER; FIBER ALIGNMENT; FIBER BUNDLE; FIBER CONTENT; FIBER LENGTH; FIBER ORIENTATION; GRAPHITE FIBER; **GRAPHITE FIBER-REINFORCED PLASTIC**; LONG FIBER; **METAL FIBER-REINFORCED PLASTIC**; **STEEL FIBER-REINFORCED PLASTIC**
NPT NICKEL; STAINLESS STEEL; STEEL FIBRE; STEEL FIBER
SHR REINFORCED PROPYLENE **POLYMERS**,graphite fibre,metal fibre,electrical properties; **COMPOSITES**,PP,electrical properties; ELECTRICAL PROPERTIES,resistivity,reinforced **plastics ,composites**,PP
GT CANADA; USA

L67 ANSWER 23 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:507418 RAPRA FS Rapra Abstracts
TI DIELECTRIC PROPERTIES OF POLYETHYLENE-**STAINLESS STEEL FIBRE COMPOSITES.**
AU Gokturk H S; Fiske T J; Kalyon D M
CS Stevens Institute of Technology
SO Antec '93. Conference Proceedings
Editor(s): SPE
New Orleans, La., 9th-13th May 1993, Vol.I, p.605-8. 012
PY 1993

DT Conference Article
LA English
AB Dielectric properties were investigated for PE **composites** containing **stainless steel fibres** and correlated with **volume** and surface resistivity values. The percolation threshold was found to be about 0.5%. The dielectric constant values of the **composite** samples measured at a frequency of 100 kHz increased from 2.3 for neat PE to about 150 for samples containing 3.5% by **volume** of fibres. These samples also showed dissipation factors of around 200, compared to 0.0006 for neat PE. 15 refs.
CC 42C11; 6277; 98T
SC *OK; KE; UI
CT ADDITIVE; ANALYSIS; ASPECT RATIO; CLUSTER; COMPANY; **COMPOSITE**; CONDUCTIVE FIBRE; CONDUCTIVE FILLER; **CONDUCTIVE PLASTIC**; CONFERENCE; DATA; DIELECTRIC ANALYSIS; DIELECTRIC CONSTANT; DIELECTRIC PROPERTIES; DISSIPATION FACTOR; ELECTRIC FIELD; ELECTRICAL CONDUCTIVITY; ELECTRICAL POTENTIAL; ELECTRICAL PROPERTIES; ELECTRICAL RESISTIVITY; EQUATION; FIBRE BUNDLE; FIBRE CONTENT; FIBROUS FILLER; FILLER; FREQUENCY; GRAPH; INSTITUTION; **METAL FIBRE-REINFORCED PLASTIC**; NETWORK; PE; PERCOLATION; **PLASTIC**; POLARISATION; POLYETHYLENE; **REINFORCED PLASTIC**; REINFORCED THERMOPLASTIC; **STEEL FIBRE-REINFORCED PLASTIC**; SURFACE RESISTIVITY; TECHNICAL; TEST; THEORY; THERMOPLASTIC; **VOLUME FRACTION**; **VOLUME RESISTIVITY**; CONDUCTIVE FIBER; FIBER BUNDLE; FIBER CONTENT; **METAL FIBER-REINFORCED PLASTIC**; POLARIZATION; **STEEL FIBER-REINFORCED PLASTIC**
NPT STAINLESS STEEL; STEEL FIBRE; STEEL FIBER
SHR **COMPOSITES**,PE,electrical properties; ELECTRICAL PROPERTIES,dielectric,resistivity,**composites**,reinforced **plastics**,PE; REINFORCED ETHYLENE **POLYMERS**,metal fibre,electrical properties
GT USA

L67 ANSWER 24 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:467950 RAPRA FS Rapra Abstracts
TI **VOLUME** AND SURFACE RESISTIVITY OF LOW-DENSITY POLYETHYLENE FILLED WITH **STAINLESS STEEL FIBRES.**
AU Sun J S; Gokturk H S; Kalyon D M (Stevens Institute of Technology)
SO Journal of Materials Science 28,No.2,15th Jan.1993,p.364-6
ISSN: 0022-2461
CODEN: JMTSAS
PY 1993
DT Journal
LA English
AB The DC electrical properties of LDPE filled with **stainless steel fibres** were studied at various concentrations above the percolation threshold. The **volume** fractions used were 2, 5 and 10% **stainless steel fibre.** The **volume** resistivity of PE varied between 61,500,000 ohm cm at 2% loading level and 371,000 ohm cm at 10%. Corresponding values for surface resistivity varied between 27,700,000 ohms at 2% and 39,400 ohms at 10%. The value of the critical exponent for percolation was estimated to be around 2.4 for **volume** resistivity and 3 for surface resistivity. 14 refs.
CC 42C11; 6277; 981
SC *OK; KE; UI
CT ADDITIVE; **COMPOSITE**; CONCENTRATION; DATA; ELECTRICAL PROPERTIES; **ETHYLENE POLYMER**; FILLER; LDPE; LOW DENSITY POLYETHYLENE; **METAL FIBRE-REINFORCED PLASTIC**; PERCOLATION; **PLASTIC**; POLYETHYLENE; POLYOLEFIN; **REINFORCED PLASTIC**;

REINFORCED THERMOPLASTIC; **STEEL FIBRE-REINFORCED PLASTIC**; SURFACE RESISTIVITY; TABLES; TECHNICAL; THERMOPLASTIC; **VOLUME FRACTION**; **VOLUME RESISTIVITY**; **METAL FIBER-REINFORCED PLASTIC**; **STEEL FIBER-REINFORCED PLASTIC**
NPT STAINLESS STEEL
SHR REINFORCED ETHYLENE **POLYMERS**,steel fibre,electrical resistivity; ETHYLENE **POLYMERS**,steel fibre reinforced,electrical resistivity; ELECTRICAL PROPERTIES,resistivity,steel fibre reinforced ethylene **polymers** ; **COMPOSITES**,electrical resistivity,steel fibre reinforced ethylene **polymers**
GT USA

L67 ANSWER 25 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:482057 RAPRA FS Rapra Abstracts
TI CONDUCTIVE NYLON 12.
SO Modern Plastics International 23, No.6, June 1993, p.64
ISSN: 0026-8283
CODEN: MOPLAY
PY 1993
DT Journal
LA English
AB LNP **Plastics** is reported to have made available a conductive nylon 12 material which is an injection mouldable and extrudable **composite** made with **stainless steel fibres.** Surface and **volume** resistivity values for Stat-Kon PDX-S are 10E ohm/sp 2-6 and 10E ohm-cm 2-6 respectively. Inherent corrosion resistance is claimed to make it suitable for such automotive fuel applications as gas filters, connectors and fuel lines. This abstract includes all the information contained in the original article.
CC 43C32.12; 981; 63Tr.Ro; 6277
SC *OK; UI; QN; KR
CT AUTOMOTIVE APPLICATION; COMPANY; **COMPOSITE**; ELECTRICAL CONDUCTIVITY; ELECTRICAL PROPERTIES; ELECTRICALLY CONDUCTIVE; FUEL RESISTANCE; NYLON 12; **PLASTIC**; POLYAMIDE-12; PRODUCT ANNOUNCEMENT; **REINFORCED PLASTIC**; SHORT ITEM; **STEEL FIBRE-REINFORCED PLASTIC**; THERMOPLASTIC; **STEEL FIBER-REINFORCED PLASTIC**
NPT STAINLESS STEEL
SHR REINFORCED AMIDE **POLYMERS**,steel fibre,automotive applications,electrical properties; ELECTRICAL PROPERTIES,conductivity,nylon 12,reinforced amide **polymers** ,automotive applications; AUTOMOTIVE APPLICATIONS,reinforced amide **polymers**,electrical properties
CO LNP **PLASTICS** NEDERLAND BV
GT EUROPEAN COMMUNITY; NETHERLANDS; WESTERN EUROPE
TN STAT-KON PDX-S

L67 ANSWER 26 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 1993(6):C3-D-46 EMA
TI Electrical and Mechanical Properties of Electrically Conductive Polyether Sulfone **Composites.**
AU Li, L. (State University of New York (Buffalo)); Chung, D.D.L. (State University of New York (Buffalo))
SO 5 ref. p. 411-420, 1991
Published by: Society for the Advancement of Material and Process Engineering, P.O. Box 2459, Covina, California 91722, USA
Conference: Electronic Materials: Technology, Here and Now, Los Angeles, California, USA, 18-20 June 1991

See also AN: 93(6):G2-Z-168
DT Conference Article
CY United States
LA English
AB Electrically conductive polyether sulfone (PES) **composites** containing carbon **fibers**, nickel **fibers**, **stainless steel fibers** or aluminum flakes at various volume fractions were fabricated and tested. For electromagnetic interference (EMI) shielding effectiveness > 50 dB, the minimum filler volume fraction was 40% for C fibers of length 200 or 400 mu m, 20% for Ni **fibers** or **stainless steel fibers**, and 30% for Al flakes. The tensile strength first increased and then decreased with increasing filler content, such that the highest tensile strength occurred at 30 **vol%** for C **fibers** as the filler, 10 volume% for Ni or **stainless steel fibers**, and 20 **volume%** for Al flakes. The best overall performance was provided by Al flakes at 30 volume%; the resistivity was 7 x 10 exp -4 Omega /cm, the EMI shielding effectiveness was > 50 dB and the tensile strength was 62 MPa.
CC D Composites; C3 Electrical and Magnetic Properties; D-C3
CT Conference Paper; Polyethersulfones: **Composite** materials; Nickel: **Composite** materials; Carbon fibers: **Composite** materials; Stainless steels: **Composite** materials; Aluminum: **Composite** materials; Fiber reinforced **plastics**: Electrical properties; Flake **composites**: Electrical properties; Electromagnetic shielding: Composition effects; Resistivity: Composition effects
CN Victrex PES 4100P TNC: PATB (Polyethersulfones)
Carboflex TNC: CAI (Carbon)
ET B; C; Ni; Al

L67 ANSWER 27 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 1990(7):C1-D-1659 EMA
TI Random **Stainless Steel Fiber** Reinforced MagnesiaAlumina Silicate Glass Matrix **Composites.**
AU McGee, R. L.; Yalvac, S.
CS Dow Chemical
SO p. 520-532, 1990
Published by: Society for the Advancement of Material and Process Engineering, P.O. Box 2459, Covina, California 91722, USA
Conference: Advanced Materials: the Challenge for the Next Decade. Vol. 35. I, Anaheim, California, USA, 2 - 5 Apr 1990
See also AN: 90(7):G2-Z-261
LA English
AB Properties, process and fabrication parameters for random short **stainless steel fiber** reinforced magnesiaalumina silicate glass matrix **composites** are presented. The quasi-isotropic **composite** plaques were hot pressed using non-woven comingled mats of glass and **stainless steel fibers** prepared using a patented wet-laid process. These mats were formed into a "greenware" prior to hot pressing for partial consolidation. Very accurate control of the volume fraction of the constituents and ease of forming the preforms can be listed as the major advantage of the process. By reinforcing a usually brittle insulating glass matrix with highly conductive **stainless steel fibers**, a strong, tough and conductive **composite** with a continuous use temperature in excess of 600 deg C was prepared. Electromagnetic interference (EMI) shielding of the **composite** was studied as a function of the volume fraction of **stainless steel fiber. Composite** plaques containing

only 6 **volume% stainless steel fiber**
were measured to have an EMI shielding value of 73 dB at 1 GHz, as measured by transmission line method. At a volume% loading of 8%, the **composite** has a density of 2.93 g/cc, fluxural strength and modulus of 137 MPa (19.8 ksi) and 101 GPa (14.7 Msi), respectively, in-plane and out-of-plane coefficient of thermal expansions of 2.6 mm/mm K and 1.2 mm/mm K, respectively, and a volume resistivity of 0.08 ohm/cm. Scanning electron micrographs of selected fracture surfaces were taken to identify the predominant fracture mode and to study the in-plane fiber orientation. Graphs, Photomicrographs. 16 reference

CC D Composites; C1 Mechanical Properties; D-C1

CT Stainless steels: **Composite** materials; Magnesium aluminum silicates: **Composite** materials; Silica glass: **Composite** materials; Fiber **composites**: Mechanical properties; Ceramic matrix **composites**: Mechanical properties; Mechanical properties; Electromagnetic shielding; Fabrication

CN S-2 TNC: CAG (Silicates)

ET B; K

L67 ANSWER 28 OF 40 EMA COPYRIGHT 2005 CSA on STN

AN 1990(11):C3-D-79 EMA

TI Stainless Steel **Composites** for ESD/EMI Applications.

AU Ward, S.; Bolvari, A.; Gorry, B.

CS ICI Advanced Materials

SO SAMPE J. (Jul - Aug 1990) 26, (4) p. 9-14
ISSN: 0091-1062

LA English

AB Thermoplastic molding **composites** that function as static dissipating and EMI shielding materials can be formulated by adding conductive fibers and fillers to a **resin** matrix. The effect of fiber dispersion, conductive loading, and aspect ratio on electrical property performance of injection molded **stainless steel fiber composites** was studied.
Mechanical and electrical properties of **stainless steel fiber composites** of PEEK, PES, ABS, and polycarbonate are measured. Several applications for these products within the ESD/EMI market are discussed. Graphs. 6 reference

CC D Composites; C3 Electrical and Magnetic Properties; D-C3

CT Polyetheretherketones: **Composite** materials; ABS **resins** : **Composite** materials; Polycarbonates: **Composite** materials; Polyethersulfones: **Composite** materials; Stainless steels: **Composite** materials; Fiber reinforced **plastics** : Electrical properties; Resistivity: Composition effects; **Fiber volume**; Electromagnetic shielding

CN Stat-Kon DS TNC: DAAD (Fiber reinforced plastics)

L67 ANSWER 29 OF 40 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 1989-182026 [25] WPIX

DNC C1989-080504

TI Stainless steel for chatter cutting into fibre - includes carbon, phosphorus, sulphur, nickel, chromium and copper.

DC M26

PA (NISE-N) NIPPON SEISEN CO LTD

CYC 1

PI JP 01119648 A 19890511 (198925)* 5

ADT JP 01119648 A JP 1987-278752 19871102

PRAI JP 1987-278752 19871102

IC **C22C038-40**

AB JP 01119648 A UPAB: 19930923
Stainless **steel** includes upto 0.07% C, upto 0.04% P, upto 0.04%

S, at least 10% **Ni**, at least 17% **Cr** and 2-4%
**Cu.** It has a balance ratio **Ni** equivalence/(1.07 x
**Cr** equivalence -9) = 103, Neq = **Ni** + 30 + 0.5 **Mn**
and Creq. = **Cr** + **Mo** + 1.5 **Si.**
ADVANTAGE - Continuous chatter-cutting is carried out without typing
of the cutting tool.

FS CPI
FA AB
MC CPI: M27-A04; M27-A04C; M27-A04N

L67 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1989:479109 HCAPLUS
DN 111:79109
ED Entered STN: 03 Sep 1989
TI A fracture mechanics approach to the single **fiber** pull-out
problem as applied to the evaluation of the adhesion strength between the
**fiber** and the matrix
AU Palley, Igor; Stevans, Daniel
CS Allied-Signal, Inc., Morristown, NJ, 07960, USA
SO Journal of Adhesion Science and Technology (1989), 3(2), 141-53
CODEN: JATEE8; ISSN: 0169-4243
DT Journal
LA English
CC 37-5 (**Plastics** Manufacture and Processing)
AB A fracture mechanics approach to the problem of single **fiber**
pull-out allowed establishment of a relationship between the filament
pull-out force, the critical value of the energy release rate, and the
position of the tip of the cylindrical crack. Numerical examples showed
the effects of **fiber** and matrix rigidities and diams. on the
apparent average debonding stress predicted by the model. The results of a
computer study on the relationship between the pull-out force and the
notch size were presented along with the anal. of the model sensitivity to
different parameters.
ST fracture mechanics **fiber** matrix composite; pull out force
**fiber** composite
IT Glass **fibers**, properties
RL: PRP (Properties)
(epoxy resins reinforced with, adhesion and fracture mechanics of, in
single **fiber** pull-out tests)
IT Adhesion
(**fiber**-matrix, single **fiber** pull-out tests for
evaluation of, fracture mechanics in relation to)
IT Glass, oxide
RL: USES (Uses)
(**fiber**-reinforced, adhesion and fracture mechanics of, in
single **fiber** pull-out tests)
IT Epoxy resins, properties
RL: PRP (Properties)
(**fiber**-reinforced, adhesion and fracture mechanics of, in
single **fiber** pull-out tests)
IT Fracture
(in **fiber**-matrix composites, single **fiber** pull-out
tests for evaluation of, adhesion in relation to)
IT Synthetic **fibers**
RL: USES (Uses)
(plastic and glass matrixes reinforced with, adhesion and fracture
mechanics of, in single **fiber** pull-out tests)
IT Plastics, reinforced
RL: PRP (Properties)
(**fiber**-, adhesion and fracture mechanics of, in single

**fiber** pull-out tests)
IT Carbon **fibers**, properties
RL: PRP (Properties)
(graphite, epoxy resins reinforced with, adhesion and fracture mechanics of, in single **fiber** pull-out tests)
IT Metallic **fibers**
RL: USES (Uses)
(**steel**, epoxy resins reinforced with, adhesion and fracture mechanics of, in single **fiber** pull-out tests)
IT 7440-44-0 7782-42-5
RL: USES (Uses)
(carbon **fibers**, graphite, epoxy resins reinforced with, adhesion and fracture mechanics of, in single **fiber** pull-out tests)
IT 12597-69-2, **Steel**, uses and miscellaneous
RL: USES (Uses)
(**fiber**, epoxy resins reinforced with, adhesion and fracture mechanics of, in single **fiber** pull-out tests)
IT **39332-67-7**, Kovar
RL: USES (Uses)
(**fiber**, glass matrix reinforced with, adhesion and fracture mechanics of, in single **fiber** pull-out tests)
IT **39332-67-7**, Kovar
RL: USES (Uses)
(**fiber**, glass matrix reinforced with, adhesion and fracture mechanics of, in single **fiber** pull-out tests)
RN 39332-67-7 HCAPLUS
CN Iron alloy, base, Fe 53,Ni 29,Co 17,Mn 0-0.50,Cr 0-0.20,Cu 0-0.20,Mo 0-0.20,Si 0-0.20,Al 0-0.10,Mg 0-0.10,Ti 0-0.10,Zr 0-0.10,C 0-0.04 (UNS K94610) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 53 | 7439-89-6 |
| Ni | 29 | 7440-02-0 |
| Co | 17 | 7440-48-4 |
| Mn | 0 - 0.50 | 7439-96-5 |
| Cr | 0 - 0.20 | 7440-47-3 |
| Cu | 0 - 0.20 | 7440-50-8 |
| Mo | 0 - 0.20 | 7439-98-7 |
| Si | 0 - 0.20 | 7440-21-3 |
| Al | 0 - 0.10 | 7429-90-5 |
| Mg | 0 - 0.10 | 7439-95-4 |
| Ti | 0 - 0.10 | 7440-32-6 |
| Zr | 0 - 0.10 | 7440-67-7 |
| C | 0 - 0.04 | 7440-44-0 |

L67 ANSWER 31 OF 40 EMA COPYRIGHT 2005 CSA on STN
AN 1990(10):C3-D-72 EMA
TI Injection Molding Compound for Electromagnetic Shielding.
AU Takahama, H.; Tamaki, H.; Herai, T.
CS Nippon Steel
NR PB90-212846/XAB
SO (Jul 1988) p. 7
LA Japanese
AB A thermoplastic injection molding compound with excellent electromagnetic shielding effectiveness has been developed as a material for housings of electronic equipment. The compound contains **stainless**

**steel fiber** as an electroconductive filler and
maintains a high fiber-aspect ratio in injection molded products. As a result, highly effective electromagnetic shielding can be obtained with only a small ratio of **fiber** (1 **volume%** (7 weight%)). The compound is excellent in formability and imparts high mechanical strength to the molded products. The injection molding compound, containing **stainless steel fiber**, stands comparison in price with electroconductive paints which are now widely used for electromagnetic shielding, and will find wide application in the future.GRAI

CC D Composites; C3 Electrical and Magnetic Properties; D-C3

CT Steels: **Composite** materials; Metal fibers: **Composite** materials; Molding compounds: Electrical properties; Electromagnetic shielding; Housings: Materials selection

L67 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1988:495217 HCAPLUS

DN 109:95217

ED Entered STN: 17 Sep 1988

TI Acoustic emission applications for defect detection in steels and GFRP

AU Dal Re, V.

CS Dep. Mech. Nucl. Aeronaut. Constr. Metall., Univ. Bologna, Bologna, Italy

SO International Journal of Materials & Product Technology (1988), 3(1), 38-53
CODEN: IJMTE2; ISSN: 0268-1900

DT Journal

LA English

CC 47-10 (Apparatus and Plant Equipment)
Section cross-reference(s): **38**, 55, 56, 57

AB An acoustic emission (AE) technique is used to detect, locate, and recognize some kinds of defects in GFRP (composites; glass-**fiber** -reinforced epoxy resins) and welded, stainless-steel thin plates. In these cases, if many AE parameters such as peak amplitude, count rate, energy rate, Felicity ratio, and other new parameters (RA and RI), relating counts with load increment or decrement, are recorded and compared, it is possible to known the type of defect with good accuracy and reliability. Defects detected in GFRP are curing errors, holes, impact damage, delaminations, fatigue damage, and humidity. Defects detected in TIG welded stainless steel are various size and shape W inclusions and notches. In this case, an expert system running on a personal computer is developed to obtain an automated diagnosis. A further AE application concerns the fracture-toughness measurement of some steels. AE detects the first stable crack propagation during a single-specimen JIC test (ASTM E-813, 1981). In brittle steels, results obtained are very close to JIC values measured by the 4-specimen method. In the case of a high-toughness NiCrMoV steel, AE also seems to be able to detect, in 25-mm-thick specimens, a first pop-in, normally otherwise evident in 125-150-mm-thick specimens only.

ST acoustic emission defect detection; steel defect detection sound; glass **fiber** resin composite defect; epoxy resin **fiber** composite defect; weld defect detection sound

IT Welds
(defect detection and identification in, by acoustic emission)

IT Glass **fibers**, uses and miscellaneous
RL: USES (Uses)
(epoxy resins reinforced by, defect detection and identification in, by sound)

IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(glass **fiber**-reinforced, defect detection and identification

in, by sound)
IT Sound and Ultrasound, chemical and physical effects
(in defect detection and identification, in **fiber**-reinforced plastic and **steel**)
IT Testing of materials
(nondestructive, by acoustic emission)
IT **88201-19-8**
RL: USES (Uses)
(detection in welded and unwelded, by sound)
IT **88201-19-8**
RL: USES (Uses)
(detection in welded and unwelded, by sound)
RN 88201-19-8 HCAPLUS
CN Iron alloy, base, Fe 62-70,Cr 20-22,Ni 7-9,Mo 2.2-2.8,Mn 0-2,Si 0-1.5,Cu 0-0.5,C 0-0.1 (AFNOR Z5CND20-8) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 62 - 70 | 7439-89-6 |
| Cr | 20 - 22 | 7440-47-3 |
| Ni | 7 - 9 | 7440-02-0 |
| Mo | 2.2 - 2.8 | 7439-98-7 |
| Mn | 0 - 2 | 7439-96-5 |
| Si | 0 - 1.5 | 7440-21-3 |
| Cu | 0 - 0.5 | 7440-50-8 |
| C | 0 - 0.1 | 7440-44-0 |

L67 ANSWER 33 OF 40 RAPRA COPYRIGHT 2005 RAPRA on STN
AN R:405477 RAPRA FS Rapra Abstracts
TI **PLASTICS** THAT SHIELD AGAINST EMI/RFI.
AU Gerteisen S R; Nangrani K J
CS WILSON FIBERFIL INTERNATIONAL
SO EMI-RFI Shielding Plastics
Editor(s): SPE,Chicago Section;SPE,Electrical & Electronic Div.
Rosemont,Il.,20-22nd June 1988,Paper 1,pp.7. 6E
PY 1988
DT Conference Article
LA English
AB A general discussion is presented on the compounding of engineering **plastics** for shielding and a comparison is made of the mechanical, electrical and shielding properties of several conductive **composites** based on nylon 6-12 and polycarbonate. Conductive additives employed were PAN carbon fibres, nickel coated graphite **fibres** and **stainless steel fibres**.
The shielding and mechanical property performance comparison is shown for fibre loading levels corresponding to the same approximate raw material cost of each fibre type. 5 refs.
CC 627; 6E4; 951T; 98T
SC *QF; OK; UG; UI
CT **ACRYLONITRILE POLYMER**; **CARBON FIBRE-REINFORCED PLASTIC**
; CFRP; COATED; COATING; COMPANIES; COMPANY; **COMPOSITE**; COMPOUNDING; **CONDUCTIVE PLASTIC**; COST; DATA; ELECTRICAL PROPERTIES; ELECTROMAGNETIC SHIELD; ELECTROMAGNETIC SHIELDING; ELECTRONIC APPLICATION; ENGINEERING APPLICATION; **ENGINEERING PLASTIC**; GRAPH; **GRAPHITE FIBRE-REINFORCED PLASTIC**; MECHANICAL PROPERTIES; NYLON 612; PAN; POLYAMIDE; POLYAMIDE-612; POLYCARBONATE; RADIO FREQUENCY INTERFERENCE; REINFORCED THERMOPLASTIC; **STEEL FIBRE-REINFORCED PLASTIC**; TABLES; TECHNICAL; TEST; TESTING;

THERMOPLASTIC; **VOLUME FRACTION; CARBON FIBER-REINFORCED PLASTIC; GRAPHITE FIBER-REINFORCED PLASTIC; STEEL FIBER-REINFORCED PLASTIC**
NPT NICKEL; STAINLESS STEEL; STEEL
SHR MECHANICAL PROPERTIES, electromagnetic shielding,reinforced thermoplastics; REINFORCED **PLASTICS**, thermoplastics,electromagnetic shielding,mechanical properties,electrical properties; ELECTRICAL PROPERTIES, electromagnetic shielding,reinforced thermoplastics
GT USA

L67 ANSWER 34 OF 40 EMA COPYRIGHT 2005 CSA on STN DUPLICATE 1
AN 1988(2):C3-D-27 EMA
TI Interpenetrating Network of Metal **Polymer Composites** (INMPC) of Polycarbonate.
AU Semsarzadeh, M. A.
CS Princeton Polymer Laboratories
SO J. Polym. Sci. C, Polym. Lett. (Nov 1987) 25, (11) p. 447-449
ISSN: 0360-6384
LA English
AB The rapid growth of electronic devices has created a need to eliminate the electro-magnetic radiation emission of such devices. Conductive acrylonitrilebutadienestyrene terpolymer (ABS), polycarbonate (PC) polyphenylene oxide (PPO), and polyamide 6,6 (PA) are the major engineering **plastics** used in the **plastic** housing for electronic devices. High impact and tensile strengths of polycarbonate and its cost effectiveness are of interest in the electromagnetic interference (EMI) shielding application and are used in electric devices. Currently, aluminum flakes and **stainless steel fiber** incorporated in polycarbonate; other fillers such as metal powders, aluminum-coated glass fibers, and silver-coated glass particles are also used in conductive polycarbonate. In the case of metal **fibers**, lower **volume** concentration is required to reach the same level of conductivity; at least 10 to 15 times higher concentrations of metal flakes are needed to reach the same level of conductivity. The same condition exists for **stainless steel fibers.** Such **fibers** 8 mu m in diameter and 6 mm long with amuch higher aspect ratio (L/D = 750) produced conductive **plastic composites** which have a volume resistivity of 0.30 ohm cm at 3 weight%. The problem with the metal fibers is their breakage during shearing and the formation of a fiber entanglement "bird's nest" in the **plastics** matrix; therefore, the higher percentage of fibers is needed for the same level of conductivity. 18 reference
CC D Composites; C3 Electrical and Magnetic Properties; D-C3
CT Polycarbonates: **Composite** materials; **Polymer** matrix **composites**: Magnetic properties; Interpenetrating networks: Magnetic properties; Fiber **composites**: Magnetic properties; Radiation shielding; Electromagnetic fields; Aluminum: **Composite** materials; Stainless steels: **Composite** materials

L67 ANSWER 35 OF 40 JICST-EPlus COPYRIGHT 2005 JST on STN
AN 870269585 JICST-EPlus
TI Electrical characteristics of conductive **plastics** containing metal fiber.
AU KIZAKI MASARU; SHIMAZAKI TAKASHI
CS Tokyo Metrop. Industrial Technology Center
SO Tokyo Toritsu Kogyo Gijutsu Senta Kenkyu Hokoku (Report of the Tokyo Metropolitan Industrial Technic Institute), (1987) no. 16, pp. 79-82.
Journal Code: S0759A (Fig. 6, Tbl. 2, Ref. 3)

CODEN: TKGHDT; ISSN: 0285-6670
CY Japan
DT Journal; Article
LA Japanese
STA New
AB This paper discribes about the dispersion of metal **fiber**, the **volume** resistivity and the shielding effectiveness of conductive **plastics** containing metal fiber. The specimen sheets are made from mixing metal fiber in the PVC pellet by mixer with two rolls. Volume resistivity is calculated by the measuring voltage and electric current with four-terminal method. Shielding effectiveness is measured by the coaxial transmission line method. The results obtained are as follows. (1) Dispersion factors of metal fiber are 4 to 10% (2) when the specimens contained 20% (**Vol**) of aluminum **fiber** or **stainless steel fiber** quantity, **volume** resistivities are more than 109Ωvcm and no shielding effectiveness. In the case of 15 to 20% (**Vol**) containing of brass **fiber** , the **volume** resistivities are 1 to 1000Ωvcm and the shielding effectiveness are 30 to 50dB at 30MHz. (3) Electrical characteristics of the specimens vary after long time continuous environment test based on the UL-746C.(author abst.)
CC NA04010A (621.315+621.318)
CT conducting **polymer**; electromagnetic shielding; solid filling; polyvinyl chloride; metal fiber; **composite** material; aluminum; brass; stainless steel; electrical resistivity
BT functional **polymer**; macromolecule; shielding; filling; chlorine-containing **polymer**; halogen-containing **polymer** ; **polymer**; thermoplastic; **plastic**; metallic material; inorganic man made fiber; man-made fiber; fiber; high temperature fiber; material; metallic element; element; 3B group element; third row element; copper base alloy; nonferrous alloy; alloy; high alloy steel; alloy steel; steel; iron and steel; anti-corrosion metal; ratio

L67 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:219882 HCAPLUS
DN 98:219882
ED Entered STN: 12 May 1984
TI Corrosion resistance of economically alloyed stainless steels in softened water
AU Semenyuk, A. V.; Sretenskaya, G. V.
CS USSR
SO Khimicheskie Volokna (1983), (2), 55-7
CODEN: KVLKA4; ISSN: 0023-1118
DT Journal
LA Russian
CC 55-10 (Ferrous Metals and Alloys)
Section cross-reference(s): **38**
AB Corrosion resistance and electrochem. characteristics were studied on low-Ni (2%) 08Kh18G8N2T **[12723-18-1]** and Ni-free steels 07Kh13AG20 [67185-15-3] and 12Kh13G18D [64814-63-7] in softened water of viscose **fiber** manufacture Tests (500-1000 h) were made at 20-75° in pH 8 water containing chlorides 17.7, sulfates 121, SiO2 10, and Fe 0.01-0.075 mg/L. Cr-Mn steel 07Kh13AG20 (ChS-546) was recommended to substitute stainless steels 12Kh18N10T and 08Kh22N6T in the equipment to maintain a high corrosion resistance and attain Ni savings.
ST chromium manganese steel corrosion; viscose **fiber** water **steel** corrosion; nickel saving stainless steel substitution
IT Viscose
(manufacture of, steel corrosion in, water softness by)
IT **12723-18-1** 64814-63-7 67185-15-3

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, in viscose **fiber** water, composition effect on)
IT 7440-02-0, uses and miscellaneous
RL: USES (Uses)
(saving of, by chromium-manganese steels, stainless steel substitution for)
IT **12723-18-1**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, in viscose **fiber** water, composition effect on)
RN 12723-18-1 HCAPLUS
CN Iron alloy, base, Fe 67-74,Cr 17.0-19.0,Mn 7.00-9.00,Ni 1.80-2.80,Si 0-0.80,Ti 0.20-0.50,Cu 0-0.30,Mo 0-0.30,W 0-0.20,C 0-0.08,P 0-0.035,S 0-0.025 (08Kh18G8N2T) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 67 - 74 | 7439-89-6 |
| Cr | 17.0 - 19.0 | 7440-47-3 |
| Mn | 7.00 - 9.00 | 7439-96-5 |
| Ni | 1.80 - 2.80 | 7440-02-0 |
| Si | 0 - 0.80 | 7440-21-3 |
| Ti | 0.20 - 0.50 | 7440-32-6 |
| Cu | 0 - 0.30 | 7440-50-8 |
| Mo | 0 - 0.30 | 7439-98-7 |
| W | 0 - 0.20 | 7440-33-7 |
| C | 0 - 0.08 | 7440-44-0 |
| P | 0 - 0.035 | 7723-14-0 |
| S | 0 - 0.025 | 7704-34-9 |

L67 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1984:37892 HCAPLUS
DN 100:37892
ED Entered STN: 12 May 1984
TI Selection of structural materials in the production of tert-butyl peroxide and tert-butyl hydroperoxide
AU Lozovaya, M. R.; Emelin, Yu. D.; Nikolaev, A. I.; Kurova, K. P.; Glushchenko, O. E.
CS USSR
SO Ekspluat., Moderniz. i Remont Oborud. v Neftepererab. i Neftepererab. i Neftekhim. Prom-sti, (Moskva) (1983), (1), 28-30
From: Ref. Zh., Korroz. Zashch. Korroz. 1983, Abstr. No. 11K192
DT Journal
LA Russian
CC 55-10 (Ferrous Metals and Alloys)
Section cross-reference(s): 23, 38
AB Title only translated.
ST stainless steel app butyl peroxide; glass composite app butyl peroxide; composite app butyl peroxide; polymer composite app butyl peroxide
IT Epoxy resins, uses and miscellaneous
Phenolic resins, uses and miscellaneous
Vinyl compounds, polymers
RL: USES (Uses)
(composites of glass **fibers** and, in apparatus for Bu peroxide manufacture)
IT Glass **fibers**, uses and miscellaneous
RL: USES (Uses)
(polymers reinforced by, in reactor apparatus for Bu peroxide manufacture)
IT **9002-88-4** **9003-07-0** 9003-35-4 25068-38-6

26917-50-0
RL: USES (Uses)
(composites of glass **fibers** and, in apparatus for Bu peroxide manufacture)
IT 12611-78-8 **12661-77-7 59093-32-2**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, in apparatus for Bu peroxide manufacture)
IT 75-91-2P 110-05-4P
RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(manufacture of, apparatus in, stainless **steel** and **fiber** glass composites for)
IT **9002-88-4 9003-07-0**
RL: USES (Uses)
(composites of glass **fibers** and, in apparatus for Bu peroxide manufacture)
RN 9002-88-4 HCAPLUS
CN Ethene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RN 9003-07-0 HCAPLUS
CN 1-Propene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 115-07-1
CMF C3 H6

$H_3C{-}CH{=}CH_2$

IT **12661-77-7 59093-32-2**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, in apparatus for Bu peroxide manufacture)
RN 12661-77-7 HCAPLUS
CN Iron alloy, base, Fe 68-74,Cr 21.0-23.0,Ni 5.30-6.30,Mn 0-0.80,Si 0-0.80,Ti 0-0.65,Cu 0-0.30,Mo 0-0.30,W 0-0.20,C 0-0.08,P 0-0.035,S 0-0.025 (08Kh22N6T) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 68 - 74 | 7439-89-6 |
| Cr | 21.0 - 23.0 | 7440-47-3 |
| Ni | 5.30 - 6.30 | 7440-02-0 |
| Mn | 0 - 0.80 | 7439-96-5 |
| Si | 0 - 0.80 | 7440-21-3 |
| Ti | 0 - 0.65 | 7440-32-6 |
| Cu | 0 - 0.30 | 7440-50-8 |
| Mo | 0 - 0.30 | 7439-98-7 |
| W | 0 - 0.20 | 7440-33-7 |

| | | |
|---|---|---|
| C | 0 - 0.08 | 7440-44-0 |
| P | 0 - 0.035 | 7723-14-0 |
| S | 0 - 0.025 | 7704-34-9 |

RN 59093-32-2 HCAPLUS
CN Iron alloy, base, Fe 61-70,Cr 16.0-18.0,Ni 12.0-14.0,Mo 2.00-3.00,Mn 0-2.00,Si 0-0.80,Ti 0-0.70,Cu 0-0.30,W 0-0.20,C 0-0.10,P 0-0.035,S 0-0.020 (10Kh17N13M2T) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 61 - 70 | 7439-89-6 |
| Cr | 16.0 - 18.0 | 7440-47-3 |
| Ni | 12.0 - 14.0 | 7440-02-0 |
| Mo | 2.00 - 3.00 | 7439-98-7 |
| Mn | 0 - 2.00 | 7439-96-5 |
| Si | 0 - 0.80 | 7440-21-3 |
| Ti | 0 - 0.70 | 7440-32-6 |
| Cu | 0 - 0.30 | 7440-50-8 |
| W | 0 - 0.20 | 7440-33-7 |
| C | 0 - 0.10 | 7440-44-0 |
| P | 0 - 0.035 | 7723-14-0 |
| S | 0 - 0.020 | 7704-34-9 |

L67 ANSWER 38 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1982:166407 HCAPLUS
DN 96:166407
ED Entered STN: 12 May 1984
TI Casting of long worm screws
AU Yudin, V. V.; Rybkin, V. A.; Stepanov, Yu. A.
CS Mosk. Vyssh. Tekh. Uchil. im. Baumana, Moscow, USSR
SO Liteinoe Proizvodstvo (1981), (10), 10-11
CODEN: LIPRAX; ISSN: 0024-449X
DT Journal
LA Russian
CC 55-3 (Ferrous Metals and Alloys)
Section cross-reference(s): **37**, 39
AB The casting parameters are described for 160-2300 mm long double-**thread** worm screws of **steel** 30KhNML **[37326-79-7]** for the processing of rubber and plastics.
ST steel worm screw casting; rubber plastics processing cast screw
IT Casting process
(of steel, for worm screws in rubber and plastics processing)
IT Plastics
Rubber, natural, preparation
Rubber, synthetic
RL: USES (Uses)
(processing of, steel worm screws for, casting of)
IT Screws
(steel worm, casting of, for rubber and plastics processing)
IT **37326-79-7**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(casting of, for worm screws, in rubber and plastics processing)
IT **37326-79-7**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(casting of, for worm screws, in rubber and plastics processing)
RN 37326-79-7 HCAPLUS
CN Iron alloy, base, Fe 94-96,Cr 1.30-1.60,Ni 1.30-1.60,Mn 0.40-0.90,Si

0.20-0.40,C 0.25-0.35,Mo 0.20-0.30,Cu 0-0.30,P 0-0.040,S 0-0.040 (30KhNM) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 94 - 96 | 7439-89-6 |
| Cr | 1.30 - 1.60 | 7440-47-3 |
| Ni | 1.30 - 1.60 | 7440-02-0 |
| Mn | 0.40 - 0.90 | 7439-96-5 |
| Si | 0.20 - 0.40 | 7440-21-3 |
| C | 0.25 - 0.35 | 7440-44-0 |
| Mo | 0.20 - 0.30 | 7439-98-7 |
| Cu | 0 - 0.30 | 7440-50-8 |
| P | 0 - 0.040 | 7723-14-0 |
| S | 0 - 0.040 | 7704-34-9 |

L67 ANSWER 39 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1980:118396 HCAPLUS
DN 92:118396
ED Entered STN: 12 May 1984
TI Comparative resistance to localized corrosion of austenitic and austenitic-ferritic chromium-nickel steels in thiocyanate media
AU Baru, R. L.
CS USSR
SO Rozwoj Stali Odpornych Korox., Konf. Nauk.-Tech., 1st (1979), 27-9
Publisher: Stowarzyszenie Inz. Tech. Przem. Hutn., Katowice, Pol.
CODEN: 42PYAB
DT Conference
LA Russian
CC 72-4 (Electrochemistry)
Section cross-reference(s): **36**
AB In the production technol. of synthetic **fibers** of Nitron, thiocyanate-containing solns. are widely used and differ in their high corrosion activity with respect to many structural materials. Laboratory studies were made and industrial tests were conducted for a comparative evaluation of the resistance of steel 18-10 (08Kh18N10T) [12742-94-8], EP-53 (08Kh22N6T) [**12661-77-7**] and EP-54 (08Kh21N6M2T) [**12661-69-7**] to pitting corrosion and corrosion cracking in 5-70% thiocyanate solns. at 30-110°, corresponding to the technol. conditions for manufacturing Nitron **fiber.** The steel EP-54 is recommended as a prospective material for the apparatus used in manufacturing Nitron.
ST corrosion steel thiocyanate Nitron manuf; acrylic **fiber** prodn corrosion **steel**
IT Acrylic **fibers**, preparation
RL: PREP (Preparation)
(production technol. of, comparative resistance to localized corrosion of steels in thiocyanate solns. in relation to)
IT 302-04-5, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(corrosion by, of steels in production of acrylic **fibers**, comparative resistance to localized)
IT **12661-69-7 12661-77-7** 12742-94-8
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(corrosion of, in thiocyanate solns. for production of acrylic **fibers**, comparative evaluation of resistance to)
IT **12661-69-7 12661-77-7**
RL: PEP (Physical, engineering or chemical process); PROC (Process)

(corrosion of, in thiocyanate solns. for production of acrylic **fibers**, comparative evaluation of resistance to)

RN 12661-69-7 HCAPLUS

CN Iron alloy, base, Fe 66-73,Cr 20.0-22.0,Ni 5.50-6.50,Mo 1.80-2.50,Mn 0-0.80,Si 0-0.80,Ti 0.20-0.40,Cu 0-0.30,W 0-0.20,C 0-0.08,P 0-0.035,S 0-0.025 (08Kh21N6M2T) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 66 - 73 | 7439-89-6 |
| Cr | 20.0 - 22.0 | 7440-47-3 |
| Ni | 5.50 - 6.50 | 7440-02-0 |
| Mo | 1.80 - 2.50 | 7439-98-7 |
| Mn | 0 - 0.80 | 7439-96-5 |
| Si | 0 - 0.80 | 7440-21-3 |
| Ti | 0.20 - 0.40 | 7440-32-6 |
| Cu | 0 - 0.30 | 7440-50-8 |
| W | 0 - 0.20 | 7440-33-7 |
| C | 0 - 0.08 | 7440-44-0 |
| P | 0 - 0.035 | 7723-14-0 |
| S | 0 - 0.025 | 7704-34-9 |

RN 12661-77-7 HCAPLUS

CN Iron alloy, base, Fe 68-74,Cr 21.0-23.0,Ni 5.30-6.30,Mn 0-0.80,Si 0-0.80,Ti 0-0.65,Cu 0-0.30,Mo 0-0.30,W 0-0.20,C 0-0.08,P 0-0.035,S 0-0.025 (08Kh22N6T) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 68 - 74 | 7439-89-6 |
| Cr | 21.0 - 23.0 | 7440-47-3 |
| Ni | 5.30 - 6.30 | 7440-02-0 |
| Mn | 0 - 0.80 | 7439-96-5 |
| Si | 0 - 0.80 | 7440-21-3 |
| Ti | 0 - 0.65 | 7440-32-6 |
| Cu | 0 - 0.30 | 7440-50-8 |
| Mo | 0 - 0.30 | 7439-98-7 |
| W | 0 - 0.20 | 7440-33-7 |
| C | 0 - 0.08 | 7440-44-0 |
| P | 0 - 0.035 | 7723-14-0 |
| S | 0 - 0.025 | 7704-34-9 |

L67 ANSWER 40 OF 40 HCAPLUS 

AN 1980:9665 HCAPLUS

DN 92:9665

ED Entered STN: 12 May 1984

TI Resistance of austenitic and austenitic-ferritic stainless steels to localized corrosion fractures in thiocyanate media of Nitron **fiber** production

AU Baru, V. L.; Timonin, V. A.; Danilov, A. M.; Makhonina, L. I.; Yakushin, L. B.; Bondar, M. G.

CS Sarat. Proizvod. Ob'edin., Saratov, USSR

SO Tezisy Dokl. Vses. Nauchno-Tekh. Soveshch. "Zashch. Korroz. Khim. Oborudovaniya" (1977), 58-60. Editor(s): Timonin, V. A. Publisher: Vses. Sov. Nauchno-Tekh. Obshchestv, Moscow, USSR.
CODEN: 41WJAS

DT Conference

LA Russian
CC 55-9 (Ferrous Metals and Alloys)
Section cross-reference(s): 39
AB The resistance to pitting corrosion and corrosion cracking of austenitic steel 08Kh18N10T [12742-94-8], and austenitic-ferritic steels EP-53 [**12661-77-7**] and EP-54 [**12661-69-7**] in KSCN solns. was investigated. Steels EP-53 and 08Kh18N10T were nearly equal in their tendency to corrosion cracking. Steel EP-54 was not susceptibile to corrosion cracking. Steel EP-54 was selected for replacing austenitic **steel** in Nitron [**25038-59-9**] **fiber** manufacturing equipment operating in thiocyanate media.
ST stainless corrosion thiocyanate Nitron
IT 333-20-0
RL: USES (Uses)
(corrosion by, of stainless steels, in Nitron **fiber** manufacture)
IT **12661-69-7 12661-77-7** 12742-94-8
RL: PRP (Properties)
(corrosion cracking and pitting resistance of, in potassium thiocyanate media for Nitron **fiber** manufacture)
IT **25038-59-9P**, reactions
RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(corrosion resistance of stainless steels in manufacture of **fiber**)
IT **12661-69-7 12661-77-7**
RL: PRP (Properties)
(corrosion cracking and pitting resistance of, in potassium thiocyanate media for Nitron **fiber** manufacture)
RN 12661-69-7 HCAPLUS
CN Iron alloy, base, Fe 66-73,Cr 20.0-22.0,Ni 5.50-6.50,Mo 1.80-2.50,Mn 0-0.80,Si 0-0.80,Ti 0.20-0.40,Cu 0-0.30,W 0-0.20,C 0-0.08,P 0-0.035,S 0-0.025 (08Kh21N6M2T) (9CI) (CA INDEX NAME)

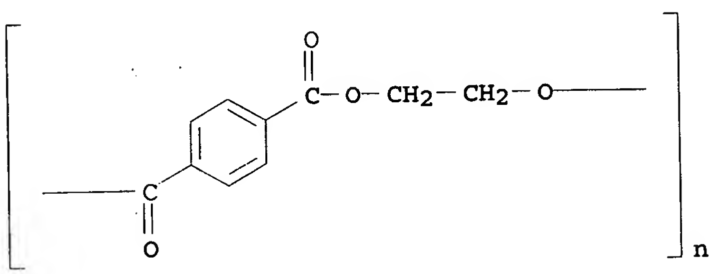
| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 66 - 73 | 7439-89-6 |
| Cr | 20.0 - 22.0 | 7440-47-3 |
| Ni | 5.50 - 6.50 | 7440-02-0 |
| Mo | 1.80 - 2.50 | 7439-98-7 |
| Mn | 0 - 0.80 | 7439-96-5 |
| Si | 0 - 0.80 | 7440-21-3 |
| Ti | 0.20 - 0.40 | 7440-32-6 |
| Cu | 0 - 0.30 | 7440-50-8 |
| W | 0 - 0.20 | 7440-33-7 |
| C | 0 - 0.08 | 7440-44-0 |
| P | 0 - 0.035 | 7723-14-0 |
| S | 0 - 0.025 | 7704-34-9 |

RN 12661-77-7 HCAPLUS
CN Iron alloy, base, Fe 68-74,Cr 21.0-23.0,Ni 5.30-6.30,Mn 0-0.80,Si 0-0.80,Ti 0-0.65,Cu 0-0.30,Mo 0-0.30,W 0-0.20,C 0-0.08,P 0-0.035,S 0-0.025 (08Kh22N6T) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|---|---|---|
| Fe | 68 - 74 | 7439-89-6 |
| Cr | 21.0 - 23.0 | 7440-47-3 |
| Ni | 5.30 - 6.30 | 7440-02-0 |
| Mn | 0 - 0.80 | 7439-96-5 |

| | | | | |
|---|---|---|---|---|
| Si | 0 | - | 0.80 | 7440-21-3 |
| Ti | 0 | - | 0.65 | 7440-32-6 |
| Cu | 0 | - | 0.30 | 7440-50-8 |
| Mo | 0 | - | 0.30 | 7439-98-7 |
| W | 0 | - | 0.20 | 7440-33-7 |
| C | 0 | - | 0.08 | 7440-44-0 |
| P | 0 | - | 0.035 | 7723-14-0 |
| S | 0 | - | 0.025 | 7704-34-9 |

IT **25038-59-9P**, reactions
RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(corrosion resistance of stainless steels in manufacture of **fiber**)
RN 25038-59-9 HCAPLUS
CN Poly(oxy-1,2-ethanediyloxycarbonyl-1,4-phenylenecarbonyl) (9CI) (CA INDEX NAME)



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